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Sup. Ct.
Vol. II

TRANSCRIPT OF RECORD

(Pages 525 to 1230)

Supreme Court of the United States

OCTOBER TERM, 1944

No. 379

**COLORADO INTERSTATE GAS COMPANY,
PETITIONER,**

vs.

**FEDERAL POWER COMMISSION, CITY AND
COUNTY OF DENVER, COLORADO, PUBLIC
SERVICE COMMISSION OF WYOMING, ET AL**

No. 380

CANADIAN RIVER GAS COMPANY, PETITIONER,

vs.

**FEDERAL POWER COMMISSION, CITY AND
COUNTY OF DENVER, COLORADO, PUBLIC
SERVICE COMMISSION OF WYOMING, ET AL**

**ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT
OF APPEALS FOR THE TENTH CIRCUIT**

PETITIONS FOR CERTIORARI FILED AUGUST 22, 1944

**CERTIORARI GRANTED | NOVEMBER 12, 1944.
JANUARY 2, 1945.**

United States Circuit Court of Appeals

TENTH CIRCUIT.

No. 2550.

COLORADO INTERSTATE GAS COMPANY,
a corporation, PETITIONER,

vs.

FEDERAL POWER COMMISSION; CITY AND COUNTY
OF DENVER, COLORADO; PUBLIC SERVICE
COMMISSION OF WYOMING; COLORADO-WYO-
MING GAS COMPANY; and CANADIAN RIVER
GAS COMPANY, RESPONDENTS.

No. 2551

CANADIAN RIVER GAS COMPANY, a corporation,
PETITIONER,

vs.

FEDERAL POWER COMMISSION; CITY AND COUNTY
OF DENVER, COLORADO; PUBLIC SERVICE
COMMISSION OF WYOMING; COLORADO-WYO-
MING GAS COMPANY; PUBLIC SERVICE COM-
PANY OF COLORADO; and COLORADO INTER-
STATE GAS COMPANY, RESPONDENTS.

ON PETITION TO REVIEW AND SET ASIDE ORDERS OF THE
FEDERAL POWER COMMISSION.

FILED SEPTEMBER 9, 1942.

3. Incorporation, Objects, Powers, Capitalization, and Financing of Colorado Interstate Gas Company.

Payne testified:

"One of the matters that was given especial consideration by those interested in this project concerned the character of operation in which Colorado Interstate should engage. There was a group of small communities in eastern Colorado, such as Rocky Ford, La Junta and Las Animas which had no gas service of any character and there were certain other communities and enterprises that seemed to furnish available markets for natural gas. A decision had to be made as to whether this company was to operate as a public utility engaging in the sale of natural gas generally to all customers, including domestic ones, or whether it would limit the character of its operations and deal only with selected customers and sell gas only under specially negotiated contracts.

"After considering all aspects of this problem, it was the unanimous opinion of those interested that the pipeline company should not attempt to expand its business to that of a public service character, but it would make contracts for the sale of gas at prices agreed upon with its customers, and with only those customers which it felt it could supply at negotiated prices.

"Our investigations made us believe that we could safely develop a gas supply for a period of twenty years and that the enterprise would be justified on a basis of forty cents per Mcf. gate rate for domestic gas, and the sale of gas to industries in competition with the fuel prices then in existence.

"We did not want to assume the privileges or duties of a public service company which would entail obligations beyond those voluntarily assumed in our contracts.

"Accordingly, when Colorado Interstate was organized, a special provision was inserted in its Certificate of Incorporation providing that the company was not to operate as a public utility and was to sell gas only by special contract." (pp. 513, 514, V, IV).

This company was incorporated under the laws of Delaware June 8, 1927, with an authorized capital of 1,250,000 shares common stock without par value, and 20,000 shares of 6% cumulative preferred stock of \$100 par value. It was organized with broad powers to carry on a business in natural and artificial gas, oil and other extractive minerals and products. (Schutte, Vol. VI, pp. 857, 858.) The articles filed herein as Exhibit 2, however, limited the broad powers and objects with this specific provision:

• "Provided that nothing herein shall be construed to authorize the corporation to transport natural gas for others as a carrier for hire or to sell natural gas for others as a carrier for hire, or to sell natural gas except by special contract, or to constitute the corporation a common purchaser of natural gas or a public utility corporation." (Ex. 2, p. 3; Schutte, Vol. VI, p. 858.)

A certificate of authority to transact business in Colorado was issued April 24, 1928 (Exhibit 3), and a like certificate to transact business in New Mexico was issued April 30, 1928, (Exhibit 3).

• On June 8, 1927, the directors authorized issuance of a total of 100 shares to the original subscribers, or their assignee Standard, at \$10 per share. On June 5, 1928, the directors authorized issuance of a total of 531,250 shares of the common stock to Standard for \$1,000,000 cash and issuance of 10,000 shares of the \$100 par value 6% cumulative preferred to Standard for \$1,000,000 cash. Actually the \$2,000,000 was applied against the open account of the company with Standard arising out of advances made by Standard towards the building of the project. (Schutte, Vol. VI, pp. 858, 859.)

Also on June 5, 1928, the directors authorized issuance of 531,250 shares of the common and 10,000 shares of the 6% cumulative preferred \$100 par value stock to Canadian River Gas Company's nominee, Southwestern, in consideration of the execution by Canadian of the gas sales contract of January 3, 1928 (Exhibit 16) under which Canadian was to sell gas at "cost" to Colorado Interstate. (Schutte, Vol. VI, p. 859; Payne, Vol. IV, p. 515, 516; Spencer, Vol. I, pp. 66, 150, 151, 152.)

Also on June 5, 1928, the directors authorized the issuance of 187,500 shares of common stock to Cities Service in consideration of the execution by Cities Service's subsidiaries, Public Service and Pueblo Gas and Fuel Company, of the sales agreements with Colorado Interstate covering the sale of gas at the Pueblo, Colorado, city gate (Exhibit 7-11) and the sale of gas at the Denver, Colorado, city gate (Exhibit 7-1). The common stock issued to Southwestern and to Cities Service was recorded on the books on the same basis as that sold for cash to Standard, namely, \$1.88^{235/24} plus per share, or \$1,000,000 for 531,250 shares issued to Southwestern and \$352,941.17 for the 187,500 shares issued to Cities Service. The 10,000 shares of preferred issued to Southwestern was likewise recorded on the books at \$1,000,000, the equivalent of the cash received from Standard for a like amount. (Schutte, Vol. VI, p. 860.)

On June 8, 1927, the board of directors authorized the issuance of one hundred shares of the common capital stock of the original subscribers, or their assignee (Standard Oil Company (New Jersey)) upon receiving payment therefor at the rate of ten dollars per share.

On June 5, 1928, the board of directors authorized the issuance of ten thousand shares of the company's one hundred dollar par value six per cent cumulative preferred capital stock to Standard Oil Company (New Jersey) upon receipt of one million dollars therefor, and approved the issuance of 531,250 shares of the company's common capital stock to Standard Oil Company (New Jersey) for one million dollars. Actually, the two million dollars was applied against the open account with Standard Oil Company of New Jersey.

Also on June 5, 1928, the board of directors authorized the issuance of ten thousand shares of the company's six per cent cumulative preferred capital stock, par value one hundred dollars, and 531,250 shares of its no-par common capital stock to Canadian River Gas Company or its order. The latter company, according to the minutes of the meeting of the board of directors held June 5, 1928 had refused to enter into the gas sales contract with the respondent, dated January 3, 1928, unless the above-described stocks were given as part consideration for Canadian River Gas

Company's entering into said contract. The preferred and common stocks were actually issued to Southwestern Development Company, as directed by Canadian River Gas Company. Southwestern Development Company has continuously owned one hundred per cent of the common stock of Canadian River Gas Company since its organization.

Also on June 5, 1928 the board of directors authorized the issuance of 187,500 shares of the company's no-par common capital stock to Cities Service Company. The latter company, according to the minutes of a meeting of the board of directors held June 5, 1928, had refused to permit two of its subsidiaries, Public Service Company of Colorado and Pueblo Gas and Fuel Company, to enter into their respective contracts for the purchase of gas from the respondent unless the above-described stock was issued in consideration therefor.

The preferred stock issued to Southwestern Development Company as a result of the foregoing was recorded on the respondent's books at its par value (\$1,000,000.00). The common stock issued to Southwestern Development Company and Cities Service Company was recorded in the books on the same basis as that sold to Standard Oil Company (New Jersey), i. e., \$1.8823529 plus per share, or \$1,000,000.00 for the 531,250 shares issued to the Southwestern Development Company and \$352,941.17 for the 187,500 shares issued to Cities Service Company. The board of directors failed, however, to adopt resolutions placing a value on the capital stocks which were not issued for a cash consideration.

It is clear from the foregoing that Colorado Interstate Gas Company issued its common and preferred capital stocks recorded at two million dollars for the privilege of buying gas from Canadian River Gas Company and issued its common capital stock recorded at \$352,941.17 for the privilege of selling gas to certain customers. The total recorded value of the stocks issued in this manner (\$1,352,941.17) was charged to an account, Franchises and Contracts. The company has recorded amortization on its books which would extinguish that account over the 20-year period from July 1, 1928 to June 30, 1948.

On December 29, 1931, Cities Service Company sold its 187,500 shares of no-par common capital stock in Colorado Interstate Gas Company to Public Service Company of Colorado for ten dollars per share, or a total of \$1,875,000.00. This value is as stated in a resolution adopted by the board of directors of Cities Service Company on February 5, 1932, certified copy of which was filed in the stock certificate book of Colorado Interstate Gas Company.

The ten thousand shares of six per cent cumulative preferred capital stock in Colorado Interstate Gas Company originally issued to Southwestern Development Company were transferred by it to Prairie Oil and Gas Company on December 28, 1928, and on March 31, 1932 the latter transferred the stock to Consolidated Oil Corporation.

On December 31, 1939 the capital stocks of Colorado Interstate Gas Company were held as follows:

I'll read the common first and then the preferred.

Common: Standard Oil Company (New Jersey) 531,250 shares or 42.5 per cent of the total;

Southwestern Development Company 531,250 shares or 42.5 per cent of the total.

Public Service Company of Colorado 187,500 shares or 15.0 per cent of the total.

Total common stock, 1,250,000 shares.

Preferred Stock: Standard Oil Company, (New Jersey) 10,000 shares or 50 per cent of the total;

Consolidated Oil Corporation 10,000 shares or 50 per cent of the total of 20,000 shares outstanding.

The stock of Southwestern Development Company as of December 31, 1939 was held 51 per cent by Consolidated Oil Corporation and approximately 47 per cent by Mission Oil Company.

Public Service Company of Colorado is controlled by Cities Service Power and Light Company.

On June 5, 1928 the board of directors authorized the issuance of the company's First Mortgage and Collateral Trust Twenty Year Six Per Cent Sinking Fund Gold Bonds

dated June 1, 1928 and payable June 1, 1948 in an aggregate principal amount of \$19,200,000.00.

The trust indenture is with the Chase National Bank, New York, successor Trustee to The Equitable Trust Company of New York, and is secured by a lien on the company's properties and on the bonds of the Canadian River Gas Company.

The bonds of Colorado Interstate Gas Company were issued at the par value thereof, as follows:

On June 14, 1928,	\$7,021,000.00
June 27, 1928	8,470,000.00
December 3, 1928	1,401,000.00
December 30, 1929	2,308,000.00
Total	\$19,200,000.00

Beginning June 1, 1930, and periodically thereafter, bonds were redeemed through the sinking fund in accordance with trust indenture provision, so that on December 31, 1939, the balance outstanding was \$8,865,000.00.

On October 28, 1938, the board of directors approved an agreement made with the Guaranty Trust Company of New York resulting in reduction of the nominal interest rate from six per cent to three and a half per cent provided Colorado Interstate Gas Company pay a premium of two per cent of the face value of the bonds then outstanding (\$10,384,000.00) except for \$519,000.00 principal amount subject to redemption on December 1, 1938, to Guaranty Trust Company and its associate. This reduction in interest rate was incidental to purchase of the outstanding bonds by Guaranty Trust Company of New York and The Mutual Life Insurance Company of New York from the previous owners.

The cash proceeds from the sale of Colorado Interstate Gas Company's securities—\$19,200,000.00 from the sale of bonds and \$2,000,000.00 from the sale of common and preferred stock, a total of \$21,200,000.00, were used primarily to liquidate advances received from Standard Oil Company of New Jersey to finance the initial construction programs of both Colorado Interstate Gas Company and Canadian

River Gas Company. The advances for the latter company were made through Colorado Interstate Gas Company.

(Vol. VI, pp. 858-864.)

Q. Mr. Schutte, how much money did Public Service Company of Colorado put in this project?

A. Well, Public Service Company of Colorado wasn't included in the initial program. It was Cities Service Company that was included in the original program. Public Service Company of Colorado, however, later on acquired by purchase the common stock of Colorado Interstate that had initially been issued to Cities Service Company.

Q. How much did Cities Service Company pay for that stock?

Mr. Keffer: If the Examiner please, I don't see how that has anything to do or any bearing upon the rate base in this case or any materiality whatsoever insofar as reasonable rate of return of property used in the Public Service is concerned. I object to the question because it is wholly irrelevant.

The Trial Examiner: Objection overruled.

Mr. March: I welcome the opportunity.

The Trial Examiner: The objection has been overruled.

Mr. Keffer: Please note our exception.

The Trial Examiner: Yes.

By Mr. March:

Q. Will you answer the question, Mr. Schutte?

A. What is the question?

The Trial Examiner: Please read the question, Mr. Reporter.

(The question referred to was read by the reporter, as set forth above.)

The Witness: Cities Service Company paid no cash for the stock. There was no cash consideration.

By Mr. March:

Q. Do you recall how much Public Service Company of

Colorado paid the Cities Service Company for that stock?

A. Ten dollars a share.

Q. Do you recall the total amount; the total consideration?

A. Just a moment. (Examining document.) It was \$1,875,000.

Q. Did at that time, to your knowledge, Cities Service Company control Public Service Company of Colorado, either directly or through one of its subsidiaries?

A. It did, yes.

(Vol. XI, pp. 869-871.)

Mr. Dougherty: If the Examiner please, Mr. Lange has requested information concerning change in the terms of the mortgage secured bonds outstanding of Colorado Interstate Gas Company and, I agreed to furnish that. It is as follows:

By Fourth Supplemental Indenture to the original mortgage, such indenture being dated September 1, 1940, the rate on the remaining outstanding bonds will be fixed at 2.75 per cent and the maturity date was amended to December 1, 1945; otherwise, there were no changes of any substance.

(Vol. C, pp. 15368-15369.)

P. C. SPENCER, called as a witness on behalf of the respondent, being first duly sworn, testified as follows:

Direct Examination.

By Mr. Keffer:

Q. Please state your name.

A. P. C. Spencer; S-p-e-n-c-e-r.

Q. You gave your name. Please give your residence also.

A. I reside at Scarsdale, New York.

Q. Do you have any official connection with the Canadian River Gas Company, Mr. Spencer?

A. I am a vice president and director of the Canadian River Gas Company.

Q. How long have you been connected with that company?

A. I have been connected with the company as vice president and as a director since 1932.

Q. Have you been generally familiar, Mr. Spencer, with the organization of the Canadian River Gas Company and also with the Southwestern Development Company?

A. Yes.

Q. What was your position prior to the organization of the Canadian River Gas Company with respect to the Southwestern Development Company?

A. I was attorney and a portion of the time general counsel for the Producers and Refiners Corporation which owned a majority of the outstanding capital stock of the Southwestern Development Company, and as such general counsel I was generally familiar with the business affairs of the Southwestern Development Company and its subsidiaries and the organization of the Southwestern Development Company in 1924.

(Vol. I, pp. 27-29.)

EXHIBIT NO. 2.

Certificate of Incorporation of Colorado Interstate Gas Company.

First. The name of this corporation is

Colorado Interstate Gas Company.

Second. Its principal office in the State of Delaware is located at No. 7 West Tenth Street in the City of Wilmington, County of New Castle. The name and address of its resident agent is Corporation Trust Company of America, No. 7 West Tenth Street, Wilmington, Delaware.

Third. The nature of the business or objects or purposes proposed to be transacted, promoted or carried on are:

To search for, mine, bore, dig for, produce, refine, manufacture, treat, compress, blend, use, store, prepare for market, contract for, purchase or otherwise acquire, sell, exchange, and generally to deal in natural and artificial

gas, petroleum and other oils, coals, sulphur, lignite, and other minerals and mineral substances, and all kinds of products and by-products thereof, including natural gas-gasoline and casing head gasoline, and all implements and materials used in the production, manufacture, storage, transportation and sale of said gas, oil, and or minerals and products and or by-products thereof.

To lay, maintain, own, lease or otherwise acquire, and operate such pipe line or lines as may be necessary or convenient for the transportation and delivery of natural and/or artificial gas and or oil purchased, produced or sold by the corporation.

To erect, build, install, construct, purchase or otherwise acquire, lease, own, possess, operate, maintain, and/or contract and deal with respect to all power and gasoline plants, compressing and pumping stations, and/or boosters, and/or all water, telephone, telegraph and/or electric transmission lines, rights of way, easements, privileges, and/or other interests in lands or property necessary or desirable in connection with the laying, building, installing, constructing, owning, leasing, acquiring, operating, and/or maintaining of said pipe lines, and or the business of dealing in natural and artificial gas, petroleum and other oils, minerals and mineral substances as herein provided.

To buy, sell, lease and improve lands, build houses, structures, vessels, cars, wharves, docks and piers.

To acquire, own, operate, exchange and sell leases, licenses, or other contracts for the purpose of drilling and developing lands for oil and gas, and to purchase or otherwise acquire, own, operate, and develop, sell and dispose of, oil and gas lands.

To enter into and carry out contracts of every kind pertaining to its business, to acquire, use, sell and grant licenses under patent rights, to purchase or otherwise acquire, hold, sell, assign and transfer shares of capital stock and bonds or other evidences of indebtedness of corporations, to exercise all the privileges of ownership, including voting upon the stock so held.

To have one or more offices, to carry on all or any of

its operations and business and without restriction or limitation as to the amount, to purchase or otherwise acquire, hold, own, mortgage, sell, convey or otherwise dispose of real and personal property of every class and description in any of the states, districts, territories or colonies of the United States and in any and all foreign countries subject to the laws of such state, district, territory, colony or country and the same to pledge, mortgage and hypothecate for the uses, benefits and purposes of the corporation, and to issue bonds, debentures and other evidences of debt, and to secure the same and interest thereon by mortgage, pledge and hypothecation of said real estate and personal property; and generally to do and perform all things incidental or necessary to enable it to carry out the objects and purposes above set forth.

In general, to carry on any other business in connection with the foregoing, whether manufacturing or otherwise, and to have and exercise all the powers conferred by the laws of Delaware upon corporations formed under the laws thereof and to do any and all things hereinbefore set forth to the same extent as natural persons might or could do.

Provided that nothing herein shall be construed to authorize the corporation to transport natural gas for others as a carrier for hire or to sell natural gas for others as a carrier for hire, or to sell natural gas except by special contract, or to constitute the corporation a common purchaser of natural gas, or a public utility corporation.

The foregoing clauses shall be construed both as objects and powers; and it is hereby expressly provided that the foregoing enumeration of specific powers shall not be held to limit or restrict in any manner the powers of this corporation.

Fourth. The total number of shares of the corporation's authorized capital is One Million Two Hundred Seventy Thousand (1,270,000) of which Twenty Thousand (20,000) of the par value of One Hundred Dollars (\$100.) each are to be Preferred Stock and One Million Two Hundred Fifty Thousand (1,250,000) are to be Common Stock without nominal or par value. From time to time, either class of stock may be increased or decreased or one or more

additional classes of stock may be created with such preferential, special or qualified rights as may be determined by the Board of Directors and the stockholders having voting rights, provided, however, that any additional classes of stock so created shall be subordinate to the Preferred Stock now authorized in respect of payments of dividends and all payments on liquidation or dissolution. The holders of the Preferred Stock shall be entitled to receive, when and as declared by the Board of Directors, dividends from the surplus or net profits of the corporation at the rate of six percent (6%) per annum and no more, payable quarterly, on dates to be fixed by the By-laws of the corporation or by resolution of the Board of Directors. Dividends on the Preferred Stock shall be cumulative and shall be paid or set apart for payment before any dividend on any stock of the corporation shall be paid or set apart, so that if in any quarterly period dividends at the rate of six percent (6%) per annum shall not have been paid or set apart for the Preferred Stock, the deficiency shall be fully paid or set apart for payment before any dividend shall be paid upon or set apart for any other stock of the corporation.

When full cumulative dividends on the Preferred Stock for all previous years shall have been declared and shall have become payable, and the accrued quarterly installments for the current year shall have been declared, and the corporation shall have paid such cumulative dividends for previous years and shall have paid and set apart from its surplus or net profits a sum sufficient to pay such accrued quarterly installments for the current year, the Board of Directors may declare dividends on the Common or other stock of the corporation payable then or thereafter out of the remaining surplus or net profits.

In the event of any liquidation or dissolution of the corporation, whether voluntary or involuntary, the holders of the Preferred Stock shall be entitled to be paid in full both the par amount of their shares and the dividends accumulated and unpaid thereon before any amount shall be paid to the holders of any other stock, but shall not be entitled to share further in the assets of the corporation or the proceeds of liquidation. After payment to the holders of

the Preferred Stock of its par value and the unpaid accrued dividends thereon, the remaining assets and funds of the corporation shall be distributed and paid to the holders of the Common or other stock according to their respective rights.

The holders of Preferred Stock shall not be entitled to receive any dividend or share of profits beyond the six per cent. (6%) aforesaid, whether payable in cash, stock or property, nor shall they have any preemptive right to subscribe for any new issue of stock of any class now or hereafter authorized or issued.

The holders of Preferred Stock shall have no voting powers whatsoever, nor shall they be entitled to notice of any meeting of stockholders of the corporation.

The Preferred Stock as an entirety shall be subject to redemption and may be redeemed at the option of the corporation at any time after five (5) years from the issue thereof on any quarterly dividend payment date by payment for each share of stock so to be redeemed of One Hundred Five per centum (105%) of the par amount thereof and any addition thereto of dividends accumulated and unpaid thereon. Not less than thirty (30) days nor more than sixty (60) days' previous notice of such redemption shall be given in such manner and form as may be prescribed by the Board of Directors. From and after the date fixed in any such notice as the date of redemption (unless default be made by the corporation in the payment of the redemption price pursuant to such notice), all dividends on the Preferred Stock shall cease to accrue and all rights of the holders of record thereof as stockholders of the corporation, except the right to receive the redemption price, shall cease and determine.

The Preferred and Common Stock may be issued by the corporation from time to time for such consideration as may be fixed from time to time by the Board of Directors thereof.

Fifth: The amount of capital stock with which this corporation will commence business is One Hundred (100) shares of Common Capital Stock.

Sixth: At all elections of directors, each stockholder shall be entitled to as many votes as shall be equal to the number of his shares of Common stock multiplied by the number of directors to be elected, and he may cast all of such votes for a single director or may distribute them among the number to be voted for or any two or more of them, as he may see fit, which right, when exercised, shall be termed cumulative voting.

Seventh: The names and places of residence of the original subscribers to the capital stock and the number of shares subscribed for by each are as follows:

Name	Residence	No. of Shares
T. L. Croteau	Wilmington, Delaware	98
A. L. Miller	Wilmington, Delaware	1
T. L. Fray	Wilmington, Delaware	1

Eighth: This corporation is to have perpetual existence.

Ninth: The private property of the stockholders shall not be subject to the demand of corporate debts to any extent whatever. No contract or other transaction between the corporation and any other corporation shall be affected or invalidated by the fact that any one or more of the stockholders, directors, officers or agents of the corporation is or are interested in or is a stockholder, director, officer or agent, or are stockholders, directors, officers or agents of such corporation, and any stockholder, director, officer or agent or stockholders, directors, officers or agents of the corporation, individually or jointly, may be a party or parties to or may be interested in any contract or transaction of the corporation or in which the corporation is interested; and no contract, act or transaction of the corporation with any person or persons, firm or corporation shall be affected or invalidated by the fact that any stockholder, director, officer or agent or stockholders, directors, officers or agents of the corporation is a party to or are parties to or interested in such contract, act or transaction or in any way connected with such person or persons, firm or corporation, and each and every person who may

become a stockholder, director, officer or agent of the corporation, is hereby relieved from any liability that might exist from the contracting with the corporation for the benefit of himself or any firm, association or corporation in which he may be in any wise interested.

Tenth: In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is hereby expressly authorized:

To make and alter the By-laws of this corporation, to fix the amount to be reserved as working capital over and above its capital stock paid in, to authorize or cause to be executed mortgages and liens upon the real and personal property of this corporation.

From time to time to determine whether and to what extent and at what times and places and under what conditions and regulations, the accounts and books of this corporation (other than the stock ledger), or any of them, shall be open to inspection by stockholders, and no stockholder shall have the right of inspecting any account, book or document of this corporation, except as conferred by statute, unless authorized by a resolution of the stockholders or Directors.

If the By-laws so provide, to designate two or more of its number to constitute an executive committee, which committee shall for the time being, as provided in said resolution or in the By-laws of this corporation, have and exercise any and all the powers of the Board of Directors in the management of the business and affairs of this corporation, and have power to authorize the seal of this corporation to be affixed to all papers which may require it.

Pursuant to an affirmative vote of the holders of at least a majority of the stock issued and outstanding having voting power given at a stockholders' meeting, duly called for that purpose; or when authorized by the written consent of the holders of at least a majority of the voting stock issued and outstanding, the Board of Directors shall have power and authority at any meeting to sell, lease or exchange all of the property and assets of this corporation including its good will and its corporate fran-

chise upon such terms and conditions as its Board of Directors deem expedient and for the best interests of the corporation.

This corporation may in its By-laws confer powers upon its Directors in addition to the foregoing and in addition to the powers and authorities expressly conferred upon them by statute. Directors need not be stockholders.

Both stockholders and Directors shall have power, if the By-laws so provide, to hold their meetings, and to have one or more offices within or without the State of Delaware, and to keep the books of this corporation (subject to the provisions of the statutes) outside of the State of Delaware at such places as may from time to time be designated by the Board of Directors.

Eleventh: This corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation in the manner now or hereafter prescribed by statute, and all the rights conferred upon stockholders herein are granted subject to this reservation.

We, the Undersigned, being each of the original subscribers to the capital stock hereinabove named for the purpose of forming a corporation to do business both within and without the State of Delaware, and in pursuance of the General Corporation Law of the State of Delaware, being Chapter 65 of the Revised Code of Delaware, and the acts mandatory thereof and supplemental thereto, do make and file this certificate, hereby declaring and certifying that the facts herein stated are true, and do respectively agree to take the number of shares of stock hereinabove set forth, and accordingly have hereunto set our hands and seals this 8th day of June, A. D. 1927.

In presence of: HERBERT E. LATTER.

(Seal)

(Seal)

(Seal)

T. L. CROTEAU.

A. L. MILLER.

T. L. FRAY.

State of Delaware, County of New Castle, ss.

Be It Remembered that on this 8th day of June A. D. 1927, personally came before me, Herbert E. Latier a Notary Public for the State of Delaware, T. L. Croteau, A. L. Miller and T. E. Fray, parties to the foregoing Certificate of Incorporation, known to me personally to be such, and severally acknowledged the said Certificate to be the act and deed of the signers respectively and that the facts therein stated are truly set forth.

Given under my hand and seal of office the day and year aforesaid.

HERBERT E. LATIER,
Notary Public.

HERBERT E. LATIER,
Notary Public.

Appointed Feb. 24, 1927
State of Delaware
Term Two Years

State of Delaware

Office of Secretary of State.

I, Josiah Marvel, Jr., Secretary of State of the State of Delaware, do hereby certify that the above and foregoing is a true and correct copy of Certificate of Incorporation of the "Colorado Interstate Gas Company", as received and filed in this office the eighth day of June, A. D. 1927, at 10 o'clock A. M.

In Testimony Whereof, I have hereunto set my hand and official seal at Dover, this fourth day of October in the year of our Lord one thousand nine hundred and forty.

JOSIAH MARVEL, JR.,
Secretary of State.

(Seal)

4. Incorporation, Objects, Powers, Capitalization, and Financing of Canadian River Gas Company.

Spencer testified that his company, Southwestern, was advised that King filed his report with Denver in August.

1927; that this report was favorable to the proposed pipe line project, including the 40c gate rate; that Southwestern was subsequently advised of the passage of the ordinance of September 14, 1927 (Exhibit 25); which ordinance recited the King Report and fixed the rates for distribution based on a 40c gate rate (Spencer, Vol. I, pp. 62, 63). Continuing, Spencer stated:

"Upon the passage of this ordinance, all parties to the agreement of April 5, 1927, immediately became active in carrying out their respective obligations thereunder. As a part of its obligations, Southwestern caused Canadian River to be incorporated under the laws of the State of Delaware on February 24, 1928, all of its capital stock (25,000 shares without par value), excepting director's qualifying shares, being issued to Southwestern. This company was organized by Southwestern to own and operate gas leases, wells, pipe lines and other facilities for the production and transportation of natural gas with which to supply the Denver project market of Colorado Interstate Gas Company . . . and the Texas markets of Amarillo Oil Company." (Vol. I, p. 63.)

Spencer's additional testimony is set forth supra under Titles 2 and 3.

A Certificate of Incorporation issued February 24, 1928, and an Amendment thereto issued April 18, 1935, was received as Exhibit 11 herein. Said Exhibit 11 is as follows:

EXHIBIT NO. 11.

State of Delaware, Office of Secretary of State.

I, Josiah Marvel, Jr., Secretary of State of the State of Delaware, Do Hereby Certify that the Certificate of Incorporation of the "Canadian River Gas Company", was received and filed in this office, the twenty-fourth day of February, A. D. 1928, at 4 o'clock P. M.:

And I do hereby further certify that the said "Canadian River Gas Company", filed a Certificate of Amendment of Certificate of Incorporation the eighteenth day of April, A. D. 1935, at 1 o'clock P. M.:

And I do hereby further certify that the aforesaid Certificates are the only Certificates of record for the aforesaid Corporation:

And I do hereby further certify that the aforesaid Corporation is duly incorporated under the laws of the State of Delaware, and is in good standing, and has a legal corporate existence, so far as the records of this office show, and is duly authorized to transact business.

In Testimony Whereof, I have hereunto set my hand and official seal, at Dover, this fourth day of October, in the year of our Lord one thousand nine hundred and forty

JOSIAH MARVEL, JR.,

(Seal)

Secretary of State.

Certificate of Amendment of Certificate
of Incorporation.

Canadian River Gas Company, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware

Does Hereby Certify:

First: That at a meeting of the Board of Directors of said Canadian River Gas Company, duly held and convened, a resolution was duly adopted setting forth an amendment proposed to the Certificate of Incorporation of said corporation as follows:

Resolved that the Certificate of Incorporation of said Canadian River Gas Company be amended by striking out all of the Article thereof numbered "Eighth" and by inserting in lieu thereof the following:

"Eighth: The number of directors of the corporation shall be fixed by the By-Laws, and may be altered from time to time as may be provided therein; provided, however, that no alteration or amendment of the By-Laws altering or changing the number of directors shall be effective

without the affirmative vote or consent in writing of at least two-thirds (2/3rds) of the outstanding shares of the corporation entitled to vote. In case of any increase in the number of directors, the additional directors shall be elected as may be provided in the By-Laws.

All corporate powers of the corporation shall be exercised, and the business of the Corporation shall be managed by the Board of Directors, except as otherwise provided by law or this Certificate of Incorporation or any amendment thereof.

Directors need not be stockholders.

In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is hereby expressly authorized, from time to time:

Subject to the provisions of the Certificate of Incorporation and or any amendment thereof and to any By-Laws adopted or altered from time to time by the stockholders, to make and alter the By-Laws of the corporation; to fix the amount to be reserved as working capital of the corporation over and above its capital stock paid in; to declare and pay dividends upon the shares of its capital stock in the manner now or hereafter permitted by the laws of the State of Delaware; to set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and or to abolish any such reserve in the manner in which it was created; to borrow money and to contract debts and to authorize or cause to be executed and or issue bonds, promissory notes, bills of exchange, debentures and other obligations and evidences of indebtedness of the corporation, whether secured by mortgage, deed of trust, pledge or otherwise, or unsecured; and to authorize or cause to be created, executed, delivered, filed and or recorded deeds of trust, mortgages, pledges and liens of or upon the real and personal property of the corporation.

To determine whether and to what extent and at what times and places and under what conditions and regulations the accounts and books of the corporation (other than the stock book), or any of them, shall be open to inspection.

tion by stockholders, and no stockholder shall have any right to inspect any account, book or document of the corporation, except as conferred by statute or authorized by the stockholders or directors.

"At any meeting of the Board of Directors to sell, lease or exchange all of the corporation's property and assets including its good will and its corporate franchises upon such terms and conditions as its Board of Directors deem expedient and for the best interests of the corporation, when and as authorized by the affirmative vote of the holders of at least two-thirds (2/3rds) of the stock issued and outstanding having voting power given at a stockholders' meeting duly called for that purpose, or when authorized by the written consent of the holders of at least two-thirds (2/3rds) of the voting stock issued and outstanding.

"The Board of Directors may, by resolution or resolutions, passed by a majority of the whole board, designate one or more committees, each committee to consist of two or more of the directors of the corporation, which to the extent provided in said resolution or resolutions or in the By-Laws of the corporation, shall have and may exercise the powers of the Board of Directors in the management of the business and affairs of the corporation, and may have power to authorize the seal of the corporation to be affixed to all papers which may require it. Such committee or committees shall have such name or names as may be stated in the By-Laws of the corporation or as may be determined from time to time by resolution adopted by the Board of Directors.

"Both stockholders and directors shall have power to hold their meetings within and or without the State of Delaware, and to keep the books of the corporation (subject to the provisions of the statutes) outside of the State of Delaware at such places as may be from time to time designated by the Board of Directors.

"Subject to the provisions of the Certificate of Incorporation and or any amendments thereof, the corporation may in its By-Laws confer powers upon its directors in ad-

dition, to the powers and authority expressly conferred upon them by statute.

Further Resolved that the proper officers of this corporation be, and hereby are, authorized to file the necessary certificate effecting said amendment with the Secretary of State of Delaware.

Further Resolved that the Secretary be, and hereby is, directed to file with the proper state official of any state in which this corporation is authorized to do business as a foreign corporation, a certified copy of the certificate of amendment and/or any other instrument as may be required by the laws of such state.

and declaring said amendment advisable and calling a meeting of the stockholders of said corporation for consideration thereof.

Second: That thereafter, pursuant to the aforesaid resolution of its Board of Directors, a special meeting of the stockholders of said corporation was duly called and held, at which meeting the necessary number of stockholders as required by statute voted in favor of the amendment.

Third: That said amendment was duly adopted in accordance with the provisions of Section 26 of the General Corporation Law of Delaware as amended.

Fourth: That the capital of said corporation will not be reduced under or by reason of said amendment.

In Witness Whereof, said Canadian River Gas Company has caused its corporate seal to be hereunto affixed and this certificate to be signed by N. K. Moody, its President, and Geo. Baird, its Secretary, this 10th day of April, 1935.

CANADIAN RIVER GAS COMPANY,
Incorporated Under the Laws of
Delaware.

By: N. K. Moody, President

By: GEO. BAIRD, Secretary.

[Verification omitted.]

State of Delaware, Office of Secretary of State,

I, Josiah Marvel, Jr., Secretary of State of the State of Delaware Do Hereby Certify that the above and foregoing is a true and correct copy of Certificate of Amendment of Certificate of Incorporation of the "Canadian River Gas Company", as received and filed in this office the eighteenth day of April, A. D. 1935, at 1 o'clock P. M.

In Testimony Whereof, I have hereunto set my hand and official seal at Dover this third day of November in the year of our Lord one thousand nine hundred and thirty-nine.

JOSIAH MARVEL, JR.,

(Seal)

Secretary of State.

Certificate of Incorporation of Canadian River
Gas Company.

First: The name of this corporation is: Canadian River Gas Company.

Second: Its principal office in the State of Delaware is located at No. 7 West Tenth Street, in the City of Wilmington, County of New Castle. The name and address of its resident agent is Corporation Trust Company of America, No. 7 West Tenth Street, Wilmington, Delaware.

Third: The nature of the business or objects or purposes to be transacted, promoted or carried on are:

To store, transport, buy and sell oil, gas, salt, brine and other mineral solutions; also sand and clay for the manufacture and sale of clay products.

To establish and maintain an oil business with authority to contract for the lease and purchase of the right to prospect for, develop and use coal and other minerals, petroleum and gas; also the right to erect, build and own all necessary oil tanks, cars and pipes necessary for the operation of the business of the same.

To search for, mine, bore, dig for, produce, refine, manufacture, treat, compress, blend, use, store, prepare for market, contract for, purchase or otherwise acquire, sell,

exchange, and generally to deal in natural and artificial gas, helium, petroleum and other oils, coal, sulphur, lignite and other minerals and mineral substances, and all kinds of products and by-products thereof, including natural gas, gasoline and casing head gasoline, and all implements and materials used in the production, manufacture, storage, transportation and sale of said gas, oil and/or minerals and products and/or by-products thereof.

To lay, maintain, own, lease, or otherwise acquire, and operate such pipe line or lines as may be necessary or convenient for the transportation and delivery of natural and/or artificial gas and/or oil purchased, produced or sold by the corporation.

To erect, build, install, construct, purchase, or otherwise acquire, lease, own, possess, operate, maintain and/or contract and deal with respect to all power and gasoline plants, compressing and pumping stations, and/or boosters, and/or all water, telephone, telegraph and/or electric transmission lines, rights of way, easements, privileges, and/or other interests in lands or property necessary or desirable in connection with the laying, building, installing, constructing, owning, leasing, acquiring, operating, and/or maintaining of said pipe lines, and/or the business of dealing in natural and artificial gas, petroleum and other oils, minerals and mineral substances as herein provided.

To buy, sell, lease and improve lands, build houses, structures, vessels, cars, wharves, docks and piers.

To acquire, own, operate, exchange and sell leases, licenses, or other contracts for the purpose of drilling and developing lands for oil and gas, and to purchase or otherwise acquire, own, operate, and develop, sell and dispose of, oil and gas lands.

To enter in and carry out contracts of every kind pertaining to its business, and to acquire, use, sell, grant and dispose of patents, copy-rights and trade-marks and any licenses or other rights or interests therein or thereunder.

To acquire by purchase, subscription or otherwise, guarantee principle of and dividends and/or interest on, hold for investment or otherwise, and use, sell, assign, transfer,

mortgage, pledge, hypothecate, exchange or otherwise dispose of shares of stock, bonds, debentures, notes, scrip, securities, evidences of indebtedness, bills of exchange, contracts or obligations of any corporation or corporations, association or associations, domestic or foreign, or of any firm or individual of the United States or any state, territory or dependency thereof or any foreign country, or any municipality or local authority within or without the United States, and also to issue in exchange therefor stocks, bonds or any other securities or evidences of indebtedness of this corporation, and while the owner or holder of any such property, to receive, collect and dispose of the interest, dividends and income on or from such property and to possess and exercise in respect thereto all of the rights, powers and privileges of ownership, including all voting power thereon.

To purchase, hold, sell and transfer shares of its own capital stock; provided that it shall not use its funds and property for the purchase of its own shares of capital stock when such use would cause an impairment of its capital; and provided further that shares of its own capital stock belonging to it shall not be voted upon directly or indirectly.

To sue and be sued in any court of law or equity and to delegate by power of attorney to any person or persons authority to commence, prosecute, defend, compromise or settle any claims, actions or suits in behalf of or against the corporation, either at law or in equity or otherwise.

To do all and everything necessary and proper for the accomplishment of the objects enumerated in this Certificate of Incorporation or any amendment thereof or necessary or incidental to the protection and benefit of the corporation, and in general to carry on any lawful business necessary or incidental to the attainment of the objects of the corporation whether or not such business is similar in nature to the objects set forth in this Certificate of Incorporation or any amendment thereof.

To do any or all things herein set forth to the same extent and as fully as natural persons might or could do.

and in any part of the world, and as principal, agent, contractor or otherwise, and either alone or in conjunction with any other persons, firms, associations or corporations; to conduct its business in all its branches in the State of Delaware, other states, the District of Columbia and the territories and colonies of the United States; and in any foreign countries, but subject to the laws thereof, respectively; to have one or more offices in and or out of the State of Delaware; to acquire, hold, purchase, mortgage, lease, pledge, hypothecate, convey, sell or otherwise dispose of; real and personal property in this State and in any of the several states, territories, possessions and dependencies of the United States, the District of Columbia and in foreign countries, but subject to such laws, respectively, as aforesaid; to borrow money and contract debts necessary or advisable in the transaction of the corporation's business or the exercise of its corporate rights, privileges or franchises or for any other lawful object or purpose of its incorporation; to issue bonds, debentures, promissory notes, bills of exchange and other obligations and evidences of indebtedness whether secured by mortgage, pledge or otherwise, or unsecured, for money borrowed or in payment for property purchased or acquired, or for any other lawful objects; to secure such bonds, debentures, promissory notes, bills of exchange and other obligations or evidences of indebtedness and interest thereon by mortgage, deed of trust, pledge and or hypothecation of the corporation's property; and to acquire, and pay for in cash, stocks or bonds of this corporation or otherwise, the good will, rights, assets and property, and to guarantee, undertake or assume the whole or any part of the obligations or liabilities of any person, firm, association or corporation.

In general, to carry on any other business in connection with the foregoing, whether manufacturing or otherwise, either as principal or otherwise and either alone or in connection with other corporations, associations, firms or individuals, and to have and exercise all the powers conferred, the act hereinafter referred to.

The foregoing clauses shall be construed both as objects and powers; and it is hereby expressly provided that the

foregoing enumeration of specific powers shall not be held to limit or restrict in any manner the powers of the corporation.

Provided that nothing herein shall be construed to authorize the corporation to transport gas or oil for others as a carrier for hire or to sell gas or oil for others as a carrier for hire or to sell gas or oil except by special contract, or to constitute the corporation a common purchaser of gas or oil or a public utility corporation.

Provided, further, that nothing herein contained shall be construed to authorize the corporation to transact business in any state, territory, district, colony or country contrary to the laws thereof, and such objects are to be carried on in the several states, territories, districts, colonies or countries, only when and where permissible under the laws thereof.

Fourth: The total number of shares that may be issued by the corporation is Twenty-five Thousand (25,000) all of which are to be without par value; and the amount of capital with which the corporation is to commence business is One Hundred (100) shares.

The board of directors, without action by the stockholders, may, from time to time, issue shares of authorized capital stock of the corporation and fix the consideration for which shares of the capital stock of the corporation without nominal or par value may be issued; and the shares of stock of the corporation without nominal or par value, whether authorized by this certificate of incorporation or by subsequent increase of the authorized number of shares of stock or by amendment of this certificate of incorporation or by consolidation or merger or otherwise, may be issued for such consideration and on such terms and in such manner as may be fixed from time to time by the Board of Directors; provided, however, that no capital stock of the corporation shall at any time be issued or allotted; nor shall any right or privilege to subscribe thereto or to purchase such stock be granted, except upon the terms of the then existing shareholders having the prior right to subscribe for and take such additional stock in proportion to their holdings at such price or for such consideration as the

Board of Directors may determine, subject to such adjustment as said Board may from time to time determine upon with a view to avoiding the allotment of fractions of shares.

Each stockholder shall at every meeting of the stockholders be entitled to one vote in person or by proxy for each share of the capital stock held by such stockholder; provided, however, that at all elections of directors of the corporation, each stockholder shall be entitled to as many votes as shall equal the number of his shares of stock multiplied by the number of directors to be elected, and he may cast all of such votes for a single director or may distribute them among the number to be voted for, or any two or more of them as he may see fit.

Fifth: The names and places of residence of each of the original subscribers to the capital stock and the number of shares subscribed for by each are as follows:

Name	Residence	No. of Shares
N. K. Moody	Independence, Kansas	98
Dana H. Kelsey	Independence, Kansas	1
Fred S. Cook	Tulsa, Oklahoma	1

Sixth: This corporation is to have perpetual existence.

Seventh: The private property of the stockholders shall not be subject to the payment of corporate debts to any extent whatever.

Eighth: The number of directors of the corporation shall be fixed by the By-Laws, and may be altered from time to time as may be provided therein; provided, however, that no alteration or amendment of the By-Laws altering or changing the number of directors shall be effective without the affirmative vote or consent in writing of at least two-thirds ($\frac{2}{3}$ nds) of the outstanding shares of the corporation entitled to vote. In case of any increase in the number of directors, the additional directors shall be elected as may be provided in the By-Laws.

All corporate powers of the corporation shall be exercised, and the business of the corporation shall be managed, by the Board of Directors, except as otherwise pro-

vided by law or this Certificate of Incorporation or any amendment thereof.

Each director shall be a stockholder of the corporation but no director need be a resident of the State of Delaware.

In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is hereby expressly authorized, from time to time:

Subject to the provisions of the Certificate of Incorporation and/or any amendment thereof and to any by-laws adopted or altered from time to time by the stockholders, to make and alter the By-Laws of the corporation; to fix the amount to be reserved as working capital of the corporation over and above its capital stock paid in; to declare and pay dividends upon the shares of its capital stock in the manner now or hereafter permitted by the laws of the State of Delaware; to set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and/or to abolish any such reserve in the manner in which it was created; to borrow money and to contract debts and to authorize or cause to be executed and/or issued bonds, promissory notes, bills of exchange, debentures and other obligations and evidences of indebtedness of the corporation, whether secured by mortgage, deed of trust, pledge or otherwise, or unsecured; and to authorize or cause to be created, executed, delivered, filed and/or recorded deeds of trust, mortgages, pledges and liens of or upon the real and personal property of the corporation.

To determine whether and to what extent and at what times and places, and under what conditions and regulations the accounts and books of the corporation (other than the stock book), or any of them, shall be open to inspection by stockholders, and no stockholder shall have any right to inspect any account, book or document of the corporation, except as conferred by statute or authorized by the stockholders or directors.

At any meeting of the Board of Directors to sell, lease or exchange all of the corporation's property and assets including its good will and its corporate franchises upon

such terms and conditions as its Board of Directors deem expedient and for the best interests of the corporation, when and as authorized by the affirmative vote of the holders of at least two-thirds ($\frac{2}{3}$ rds) of the stock issued and outstanding having voting power given at a stockholders' meeting duly called for that purpose, or when authorized by the written consent of the holders of at least two-thirds ($\frac{2}{3}$ rds) of the voting stock issued and outstanding.

The Board of Directors may, by resolution or resolutions, passed by a majority of the whole board, designate one or more committees, each committee to consist of two or more, of the directors of the corporation, which to the extent provided in said resolution or resolutions or in the By-Laws of the corporation, shall have and may exercise the powers of the Board of Directors in the management of the business and affairs of the corporation, and may have power to authorize the seal of the corporation to be affixed to all papers which may require it. Such committee or committees shall have such name or names as may be stated in the By-Laws of the corporation or as may be determined from time to time by resolution adopted by the Board of Directors.

Both stockholders and directors shall have power to hold their meetings within and or without the State of Delaware, and to keep the books of the corporation (subject to the provisions of the statutes) outside of the State of Delaware at such places as may be from time to time designated by the Board of Directors.

Subject to the provisions of the Certificate of Incorporation and or any amendments thereof, the corporation may in its By-Laws confer powers upon its directors in addition to the foregoing and in addition to the powers and authority expressly conferred upon them by statute.

Ninth: The corporation reserves the right to amend, alter, change or repeal any provisions contained in this Certificate of Incorporation or any amendment hereof in the manner now or hereafter authorized or prescribed by statute and all rights of the stockholders of the corporation are granted subject to this reservation; provided,

however, that no such amendment, alteration, change or repeal in any wise limiting, restricting or changing (a) said prior right of stockholders to purchase stock of the corporation or (b) said voting rights of stockholders including said right of cumulative voting or (c) said proportion of the outstanding shares necessary to authorize the sale, lease or exchange of all the corporation's property and assets including its good will and corporate franchises or (d) said proportion of the outstanding shares necessary to authorize any alteration or amendment of the By-laws altering or changing the number of directors, shall be effective without the affirmative vote or written consent of the holders of at least two-thirds (2/3rds) of the stock issued and outstanding having voting power.

Wg. the undersigned, being each of the original subscribers to the capital stock hereinbefore named, for the purpose of forming a corporation to do business both within and without the State of Delaware, and in pursuance of the General Corporation Law of the State of Delaware, being Chapter 65 of the Revised Code of Delaware, and the acts amendatory thereof and supplemental thereto, do make and file this Certificate hereby declaring and certifying that the facts herein stated are true; and do each respectively agree to take at a price per share to be fixed by the Board of Directors the number of shares of stock hereinbefore set forth, waiving all requirements of the statutes of Delaware relating to notice of assessments on the stock hereby subscribed; and accordingly hereunto have set our respective hands and seals this 18th day of February, A. D. 1928.

N. K. MOODY. (L.S.)

DANA F. KELSEY. (L.S.)

FRED S. COOK. (L.S.)

State of Kansas, County of Montgomery, ss.

Be It Remembered That on this 18th day of February, A. D. 1928, personally came before me, a Notary Public in and for said county and State, N. K. Moody, Dana H. Kelsey and Fred S. Cook, all the parties to the foregoing Certificate of Incorporation, known to me personally to be such and severally acknowledged the said Certificate to be

the act and deed of the signers respectively and that the facts therein stated are truly set forth.

Given under my hand and seal of office the day and year aforesaid.

CECIL R. BUCKLES, Notary Public

My commission expires: March 21, 1928. Cecil R. Buckles, Notary Public, Montgomery Co., Kans.

State of Delaware, Office of Secretary of State,

I, Josiah Marvel, Jr., Secretary of State of the State of Delaware, do hereby certify that the above and foregoing is a true and correct copy of Certificate of Incorporation of the "Canadian River Gas Company," as received and filed in this office the twenty-fourth day of February, A. D. 1928, at five o'clock P. M.

In Testimony Whereof, I have hereunto set my hand and official seal at Dover, this third day of November in the year of our Lord one thousand nine hundred and thirty-nine.

JOSIAH MARVEL, JR.,
Secretary of State.

(Seal)

On March 31, 1928, Canadian River received a certificate to do business in Texas, which was renewed for a period of ten years on March 17, 1938, both of which were included as Exhibit 12 herein.

All the capital stock, including that originally issued to the directors as qualifying shares, was finally issued to Southwestern for \$1 and so remained at December 31, 1939. (Schutte, Vol. VI, pp. 855, 856.) On June 5, 1928, the directors and stockholders authorized the issuance of \$11,000,000 First Mortgage Twenty-year 6% Sinking Fund Gold Bonds under a trust indenture with Equitable Trust Company, now succeeded by Chase National Bank of New York, as successor trustee. All of the bonds were purchased by Colorado Interstate for cash at par. (Spencer, Vol. 1, p. 65.) The bonds were dated June 1, 1928, payable June 1, 1948. Beginning June 1, 1930, and periodically thereafter bonds were redeemed through the sinking fund in accordance with the trust indenture and at De-

ember 31, 1939, the total amount of bonds outstanding was \$5,057,000, all still owned by Colorado Interstate. At that date, Canadian River also had outstanding and in the hands of Colorado Interstate \$1,348,254.14 of 6% notes sold, from time to time, at par for cash to finance Canadian River's construction. They were redeemable in equal monthly installments over a period of one hundred and twenty months from the date of issuance or by May 31, 1948, whichever is the shorter period. (Schutte, Vol. VI, pp. 856, 857.)

Said trust indenture under which Canadian River's bonds were issued is Exhibit No. 22, and covers all of Canadian's properties, producing, gathering and transmission, then existing and thereafter acquired, and all contracts, and, by supplemental indenture thereto dated June 1, 1928, expressly covers the January 3, 1928, contract with Colorado Interstate Gas Company, sometimes referred to as the "Cost Contract". In addition to customary provisions in trust indentures, said Exhibit No. 22, in Articles Nos. IV, V, and VI thereof, provides as follows:

Article IV.

Particular Covenants of the Company.

The Company further covenants and agrees with the Trustee for the benefit of the Trustee and of the several holders for the time being of the bonds and coupons as hereinafter set forth and for better securing and assuring the payment of all bonds any time issued and outstanding under this Indenture and interest thereon and the Sinking Fund provided for in said Indenture.

Section 1. The Company will duly and punctually pay or cause to be paid the principal of each and every of the bonds and the interest accrued thereon at the times and places and in the manner mentioned in the bonds or the coupons thereto appertaining according to the true intent and meaning thereof. The interest on the coupon bonds shall be payable only upon presentation and surrender of the coupons therefor, as such coupons respectively shall mature, or upon presentation of temporary bonds without

coupons for proper endorsement of such payment thereon. When and as paid, all coupons shall forthwith be cancelled. The interest on the registered bonds without coupons shall be payable only to the registered holder thereof. The Company will not, directly or indirectly, extend or assent to the extension of the time of payment of any coupons or claim for interest on any of the bonds and will not, directly or indirectly, be a party to or approve any such arrangement, by purchasing or refunding such coupons or claims for interest, or in any other manner.

Sec. 2. The Company has good and valid title to and is lawfully seized and possessed of the trust estate, and has good right and lawful authority to convey, mortgage, pledge, hypothecate and transfer the same, as provided in and by this Indenture. The Company covenants that the properties hereby conveyed, mortgaged, pledged, hypothecated and transferred or intended so to be or contracted so to be, are subject to no mortgage or lien or encumbrance whatsoever except as stated in the descriptions thereof respectively herein contained and that, save as aforesaid and as may be herein permitted, it will not create or suffer to be created or permit to exist any lien or charge having priority over or equality with the lien created by or provided for by the terms of this Indenture upon the trust estate or any part thereof, except any lien or charge existing on any property at the time of the acquisition thereof by the Company which may be acquired by the Company after the execution and delivery of this Indenture.

Sec. 3. The Company, for the purpose of further securing the bonds under this Indenture, will from time to time assign, transfer, set over, pledge and hypothecate to the Trustee any and all contracts by virtue of which it may be or may become entitled to purchase gas and will from time to time cause to be executed and delivered to the Trustee such supplemental mortgage or mortgages as may be necessary or proper to effectively subject to the lien hereof any and all property which may be made the basis for the payment of money or the obtaining of a release under Article III or Article IX hereof, and any or all property which is intended to be subject to the lien hereof. And the Company will do, execute, acknowledge and

deliver, and will cause to be done, executed, acknowledged and delivered, by any other corporation or person obligated to the Company so to do, all and every such further acts, deeds, conveyances, transfers and assurances in law as the Trustee shall reasonably require for the better assuring, conveying, assigning and confirming unto the Trustee all and singular the hereditaments and premises, estate and property hereby conveyed or assigned, or intended to be conveyed or assigned, or which the Company hereafter may become bound to convey or assign to the Trustee.

Sec. 4. Presentation for payment of bonds and coupons and service of notices or demands to or upon the Company in respect of any and all of the bonds and coupons secured by this Indenture, or in respect of any matter under this Indenture or under any indenture supplemental hereto, may be made upon the Company at the principal office of the Trustee in the Borough of Manhattan, in the City and State of New York. The Trustee is hereby irrevocably constituted and appointed the representative of the Company for the purpose of such presentation and demand and the receipt of any such notice. But the Trustee shall be under no liability to the Company, or to any other corporation or person in respect of any such presentation, demand or notice, except to give written notice forthwith to the Company of any demand or notice other than a demand pursuant to the terms in this Indenture for the payment of the interest on, or principal of or premium on any bond outstanding hereunder as and when the same shall be due and payable.

Sec. 5. The Company from time to time will duly pay and discharge or will cause to be paid and discharged as and when due and payable all taxes, assessments and governmental charges lawfully imposed upon the trust estate or any part thereof or upon the production or income and profits thereof, the lien whereof would be prior or equal to that created by or provided for by the terms of this Indenture, including all taxes, assessments and governmental charges lawfully imposed upon the lien or interest of the Trustee in respect of the trust estate, so that the lien and priority thereon created by or provided for by the terms of this Indenture shall be fully preserved at the cost

of the Company, without expense to the Trustee or to the bondholders; provided, however, that the Company shall have the right to contest, by legal proceedings, any tax, assessment or charge, and pending such contest may delay or defer the payment thereof.

Sec. 6. The Company will except as otherwise permitted by this Indenture perform or comply with all the conditions, covenants, terms, stipulations and provisions of any and all leases or other instruments under which it holds rights covered by this Indenture in oil or gas lands or any instruments supplemental hereto, and at its own expense will do or cause to be done all things necessary to preserve and keep in full force and effect all of its rights under said leases and instruments and shall and will diligently preserve all rights, franchises and privileges to it granted and on it conferred by law or otherwise, and will comply with the laws of the State of Delaware and with the laws of any other state and of the United States of America, in such form and manner as counsel learned in the law shall advise and will, except as otherwise permitted by this Indenture, preserve its corporate existence and will at all times diligently carry on and conduct its business and affairs, maintain, preserve and keep in good repair, working order and condition and equip with suitable appliances the trust estate, and will from time to time make all needful and proper repairs, replacements, alterations and renewals thereto or thereof, so that at all times the value of the security for the bonds issued hereunder and the efficiency of the trust estate shall be fully preserved and maintained.

Sec. 7. The Company without unreasonable delay will pay and discharge, or cause to be paid and discharged, or will make adequate provision to satisfy and discharge, all lawful claims and demands of mechanics, laborers, employees and others which if unpaid might by law be given precedence over or equality with the lien created by or provided for under the terms of this Indenture as a lien or charge upon the trust estate, or any part thereof, or the income thereof; provided, however, that the Company shall have the right to contest by legal proceedings any such claim or demand and pending such contest may delay or defer the payment or discharge thereof.

Sec. 8. The Company will charge to operation all royalties and carrying charges under or in connection with the gas leases; but bonuses payable in connection with the acquisition of gas leases shall be deemed to be not operating expenses but capital charges and in respect thereof, under the limitations stated in Article III, the Company shall be entitled to require that monies deposited hereunder shall be paid to it.

Sec. 9. The Company will fully perform all the obligations assumed by it or which may be assumed by it by modifications made in the manner in this Indenture provided in the four contracts described as follows, to-wit:

(a) A certain contract bearing date the third day of January 1928 whereby the Company has agreed to produce, sell and deliver and the Amarillo Oil Company has agreed to purchase, receive and pay for gas for consumption in Amarillo, Texas, and its environs, at the place or places, for the price or prices, and under the terms and conditions set forth in said contract, a duplicate original of which is delivered by the Company to the Trustee simultaneously with the execution and delivery of these presents.

(b) A certain contract bearing date the third day of January 1928 whereby the Company has agreed to produce, sell and deliver and the Amarillo Oil Company has agreed to purchase, receive and pay for gas for consumption in that part of Texas known as the Texas Pankandle, at the place or places, for the price or prices, and under the terms and conditions set forth in said contract, a duplicate original of which is delivered by the Company to the Trustee simultaneously with the execution and delivery of these presents.

(c) A certain contract bearing date the third day of January 1928 whereby the Company has agreed to produce, sell and deliver and the Colorado Interstate Gas Company has agreed to purchase, receive and pay for gas for consumption in Colorado and elsewhere as therein provided, at the place or places, for the price or prices, and under the terms and conditions set forth in said contract, a duplicate original of which is de-

livered by the Company to the Trustee simultaneously with the execution and delivery of these presents.

(d) A certain contract bearing date the third day of January 1928 between the Company and the Amarillo Oil Company wherein and whereby the Company has acquired the right to purchase any gas wells drilled on the lands described in Paragraph First of the Granting Clauses of this Indenture by the owner of the oil rights therein and whereby the Company is obligated to sell to the owners of the oil rights in the lands described in Paragraph First of the Granting Clauses of this Indenture any oil wells drilled thereon by the Company, all for the price or prices and under the terms and conditions set forth in said contract, a duplicate original of which is delivered by the Company to the Trustee simultaneously with the execution and delivery of these presents.

and the Company will require the other parties to said contracts to fully perform the obligations assumed by such other parties therein, and the Company will not modify or permit or consent to the modification of such contracts without first obtaining the consent of the Trustee thereto.

Sec. 10. The Company will furnish to the Trustee on the first day of January of each and every year a statement of its operations for the production of gas from its own properties and of its purchases of gas from other producers and its estimate of its probable production and purchases of gas and its probable sales of gas during the two years immediately following the date of each statement, and if at any time the Trustee is of the opinion that the Company's operations for the production of gas from its own properties and/or purchases of gas from other producers are not sufficient to enable the Company to deliver all the gas probably required by its customers and to fully and properly protect the trust estate as the security for the payment of the Company's bonds, then the Trustee may demand that the Company shall drill such wells and make such improvements and conduct such operations and make such purchases of gas as the Trustee shall specify, and upon receipt of such demand by the Trustee the Company shall drill such wells and make such improve-

ments and conduct such operations and make such purchases of gas as shall be specified in said demand.

Sec 11. The Company will not make any sales of gas other than those for which provision is made in the Company's contract dated January 3rd, 1928 with the Amarillo Oil Company for the sale of gas for consumption in Amarillo, Texas, and its environs, the Company's contract dated January 3rd, 1928 with the Amarillo Oil Company for the sale of gas for consumption in that part of Texas known as the Texas Panhandle, the Company's contract dated January 3rd, 1928 with the Colorado Interstate Gas Company for the sale of gas for consumption in Colorado and elsewhere as provided in said contract, duplicate originals of which are delivered to the Trustee simultaneously with the execution and delivery of these presents, and any contracts which the Company may hereafter make with the Amarillo Oil Company for the sale of gas to it to supply additional customers located in Texas north of the line drawn from the point where the boundary line between the eastern side of Texas known as the Texas Panhandle and the western side of Oklahoma intersects the Red River, which point is near the center of the easterly boundary line of Childress County, Texas, to a point formed by the intersection of the boundary line between the western side of Texas known as the Texas Panhandle and the eastern side of New Mexico with a boundary line between the northern side of Texas and the southern side of New Mexico, which point is at or near the northwest corner of Winkler County, Texas, until it shall first have obtained the consent of the Trustee thereto and the Company will not modify, amend or enlarge any contract for the sale of gas so made without it shall first have obtained the consent of the Trustee thereto. In case of any application by the Company for the consent of the Trustee under this Section 11, the Company shall furnish the Trustee at the time of such application with full data concerning the gas which the Company has available from its own wells and under its contracts to purchase gas from other producers and concerning the amount of gas which the Company is obligated to supply under existing contracts or commitments and under the new contract or commitment for which the Trustee's consent is

sought. Upon application by the Company to the Trustee therefor, the Trustee shall grant such consent, if in its opinion the contract, or modification amendment or enlargement is manifestly in the interest of the trust estate, and, if said application shall be accompanied by consent in writing of the holder of a majority of the bonds then issued and outstanding hereunder, such application shall be immediately granted by the Trustee as being manifestly in the interest of the trust estate. Should the Company make such contracts with the consent of the Trustee, the Company will forthwith assign such contracts to the Trustee as further security for this Indenture.

Sec. 12. The Company will purchase and acquire all wells, interest in wells or the right to receive any part or all of the production of wells which at any time and from time to time it may be entitled under and by virtue of a certain contract called "Operating Contract" dated the third day of January 1928 between it and the Amarillo Oil Company, a duplicate original of which is delivered to the Trustee simultaneously with the execution and delivery of these presents, to purchase or acquire unless it shall first obtain from the Trustee permission to refrain from or delay making such purchase or acquisition.

Sec. 13. The Company will not disburse any of the funds it may receive from (a) the sale of its capital stock; (b) this Indenture or the sale of bonds issued pursuant hereto; (c) the Colorado Interstate Gas Company as loans under the operation of Articles Third and Eighth of the Company's contract dated January 3rd, 1928 with that Company, a duplicate original of which is delivered to the Trustee simultaneously with the execution and delivery of these presents; or (d) the sale of natural gas, helium, natural gas gasoline, or other things or materials it may sell or otherwise dispose of in any manner other than (a) to pay or to provide for the payment of interest and/or principal on bonds issued and outstanding hereunder; (b) to the Trustee hereunder for the reduction or liquidation of the liability herein established; (c) in making provisions for the performance of the Company's contract dated January 3rd, 1928 with the Colorado Interstate Gas Company, the Company's three contracts each dated January

3rd, 1928 with the Amarillo Oil Company, duplicate originals of which are delivered to the Trustee simultaneously with the execution and delivery of these presents, and such contracts for the sale of gas as may be made pursuant to the provisions of Article IV, Section 11 hereof; or (d) for the operation and acquisition of properties made or to be made subject to the lien hereof or for the operation and acquisition of properties necessary or appropriate for the performance of the Company's contracts described in this Section 13 of this Article IV and other contracts made in the manner in this Indenture provided.

Sec. 14. The Company will not issue any bonds hereunder in any manner other than in accordance with the provisions of this Indenture and the agreements in that behalf herein contained.

Sec. 15. The Company will record, file and renew this Indenture and every Indenture supplemental hereto which may hereafter be executed, all in such manner, at such times and in such places as may be required by law in order fully to preserve and protect the security of the bondholders and the rights of the Trustee.

Article V.

Section 1. As a Sinking Fund for the retirement of the bonds, to be applied as hereinafter provided, the Company covenants and agrees that it will pay to the Trustee on (a) June 1st, 1930, and semi-annually thereafter on the first day of December and the first day of June in each year to and including the first day of December 1932, the sum of Three Hundred Nine Thousand One Hundred Eighty-Nine Dollars (\$309,189); (b) on June 1st, 1933, and semi-annually thereafter on the first day of December and the first day of June in each year to and including the first day of December 1937, the sum of Three Hundred Six Thousand Two Hundred Sixteen Dollars (\$306,216.); (c) on June 1st, 1938, and semi-annually thereafter on the first day of December and the first day of June in each year to and including the first day of December 1942, the sum of Three Hundred Three Thousand Two Hundred Forty-three Dollars (\$303,243.); and (d) on June 1st, 1943, and semi-annually thereafter on the first day of December

and the first day of June in each year to and including the first day of December 1947, the sum of Three Hundred Thousand Two Hundred Seventy Dollars (\$300,270.); provided, however, the Company shall be required to pay such amounts to such Sinking Fund only so long as any of the bonds remain outstanding.

In lieu of paying any Sinking Fund installment in cash, in whole or in part, the Company may deliver, to the Trustee for cancellation bonds which shall have been previously authenticated and delivered hereunder, and previously acquired by the Company and shall receive credit therefor on account of such Sinking Fund installment for bonds so delivered for cancellation an amount equal to (a) if such bonds are delivered for cancellation on or before June 1st, 1933, One Hundred Four per cent. (104%) of the principal amount of the bonds so delivered for cancellation; (b) if such bonds are delivered for cancellation after June 1st, 1933 but on or before June 1st, 1938, One Hundred Three per cent. (103%) of the principal amount of the bonds so delivered for cancellation; (c) if such bonds are delivered for cancellation after June 1st, 1938 but on or before June 1st, 1943, One Hundred Two per cent. (102%) of the principal amount of the bonds so delivered for cancellation; and (d) if such bonds are delivered for cancellation after June 1st, 1943, One Hundred One per cent. (101%) of the principal amount of the bonds so delivered for cancellation.

Sec. 2. All monies received by the Trustee under this Article shall be applied by the Trustee, from time to time, as rapidly as shall be reasonably practicable but not later than forty-five (45) days prior to the next ensuing Sinking Fund payment date, to the purchase of bonds at the lowest price obtainable but not exceeding (a) One Hundred Four per cent. (104%) of the principal amount thereof, plus accrued interest for bonds purchased on or before June 1st, 1933; (b) One Hundred Three per cent. (103%) of the principal amount thereof, plus accrued interest for bonds purchased after June 1st, 1933 but on or before June 1st, 1938; (c) One Hundred Two per cent. (102%) of the principal amount thereof, plus accrued interest for bonds purchased after June 1st, 1938 but on or before

June 1st, 1943; and (d) One Hundred One per cent (101%) of the principal amount thereof, plus accrued interest for bonds purchased after June 1st, 1943, at private or public sale on stock exchanges or otherwise, as the Trustee may deem advisable. The Trustee is authorized to use funds from the Sinking Fund for the payment of premium and accrued interest on any bonds redeemed or purchased by the Trustee for the Sinking Fund and the Company covenants to reimburse the Trustee for the account of the Sinking Fund forthwith upon the request of the Trustee, the amount of any accrued interest paid on the redemption or purchase of bonds for the Sinking Fund accruing subsequent to the payment of the installment of the Sinking Fund applied to such redemption or purchase and no payment on account of interest shall be credited to the Company's Sinking Fund obligations.

If, upon the expiration of the time limited as aforesaid for such purchase of bonds, the Trustee shall not have purchased bonds to an amount sufficient to exhaust the Sinking Fund monies available therefor, then the amount of such monies remaining in its hand, if Ten Thousand Four Hundred Dollars (\$10,400) or more (or any amount less than Ten Thousand Four Hundred Dollars (\$10,400) if so requested by the Company), shall be applied on the next ensuing Sinking Fund payment date to the redemption by lot of bonds at the redemption price (a) of One Hundred Four per cent (104%) of the principal amount thereof and accrued interest, if such next ensuing redemption date is on or before June 1st, 1933; (b) of One Hundred Three per cent (103%) of the principal amount thereof and accrued interest, if such next ensuing redemption date is after June 1st, 1933 and on or before June 1st, 1938; (c) of One Hundred Two per cent (102%) of the principal amount thereof and accrued interest, if such ensuing redemption date is after June 1st, 1938 and on or before June 1st, 1943; and (d) of One Hundred One per cent (101%) of the principal amount thereof and accrued interest, if such next ensuing redemption date is after June 1st, 1943; and the Company covenants to reimburse the Trustee for the account of the Sinking Fund forthwith upon the request of the Trustee the amount of any accrued interest paid on such redemption of bonds.

quent to the payment of the installment of the Sinking Fund applied to such redemption. Any amount of Ten Thousand Four Hundred Dollars (\$10,400) or less not so applied shall be added to the Sinking Fund installment next payable hereunder, and, together with said installment, applied in accordance with the provisions of this Section 2.

Prior to the date of the first advertisement of notice of redemption of bonds for the Sinking Fund as hereinbelow provided, the Trustee shall designate by lot, in such manner as the Trustee in its uncontrolled discretion shall determine, the serial numbers of such principal amount of bonds as such applicable monies shall suffice, as near as may be, to redeem on the next ensuing Sinking Fund payment date.

Thereupon the Trustee shall give notice in the name of the Company once a week for four successive weeks (in each instance upon any day of the week) in such form as it shall deem appropriate of the bonds to be called for redemption and the serial numbers thereof, in a daily newspaper, published in the English language, of general circulation in the Borough of Manhattan, City and State of New York. The first publication of such notice is to be not later than thirty (30) days nor earlier than forty (40) days prior to the next ensuing Sinking Fund payment date, provided, however, that if every bond so designated for redemption shall be a full registered bond, no notice of redemption shall be published in the newspaper as aforesaid. A similar notice shall be mailed by registered letter at least thirty (30) days prior to the redemption date to each registered holder of bonds called for redemption at the last address of such holder appearing on the bond register or registers of the Company.

Notice having been given as above provided, the bonds designated therein shall become due and payable on the date and in the manner and at the place designated in said notice at the redemption price (a) of One Hundred Four per cent. (104%) of the principal amount thereof plus accrued interest if such designated date of payment is on or before June 1st, 1933; (b) of One Hundred Three per cent. (103%) of the principal amount thereof, plus accrued interest if such designated date of payment is after June

1st, 1933 and on, or before June 1st, 1938; (c) of One Hundred Two per cent. (102%) of the principal amount thereof, plus accrued interest if such designated date of payment is after June 1st, 1938 and on or before June 1st, 1943; and (d) of One Hundred One per cent. (101%) of the principal amount thereof, plus accrued interest if such designated date of payment is after June 1st, 1943, and from and after the date of redemption so designated (unless default shall be made in the payment of such bonds upon the presentation thereof), interest on such bonds shall cease, and of the Sinking Fund monies then held by the Trustee, an amount sufficient to redeem the bonds so called for redemption shall be deemed segregated for the benefit of the bonds so called and the coupons thereto appertaining maturing on the redemption date and shall on and after the date so designated stand in lieu of the security of this Indenture and any instruments supplemental thereto with regard to such bonds and coupons, and such bonds shall not be entitled to the benefits of this Indenture or any instruments supplemental hereto and shall not be considered as outstanding, and said Sinking Fund monies shall be held by the Trustee for and to be paid by it to the holders of such bonds at the redemption price prevailing on the date such bonds became payable, plus accrued interest to the date of redemption so designated as and when the same, with coupons maturing on and after the redemption date attached thereto, shall be surrendered to the Trustee at any time thereafter, duly assigned to bearer if registered, and the Trustee shall not be liable to the holders of such bonds for interest on the Sinking Fund monies so held by the Trustee for their account.

All bonds which have been redeemed or purchased as herein provided shall be forthwith cancelled and delivered to the Company and the Company shall not issue any bonds under this Indenture in lieu of said bonds so exchanged.

Article VI.

Remedies of Trustee and Bondholders.

Section 1. No coupon which in any way, at or after maturity, has been transferred or pledged separate and apart from the bond to which it appertains shall, unless

accompanied by such bond, be entitled, in case of a default hereunder, to any benefit of or from this Indenture, except subject to the prior payment in full of the principal of all the bonds and of all coupons not so transferred or pledged, with interest thereon at the same rate as was borne by said bonds. In case the time for payment of any coupon shall be, directly or indirectly, extended, in contravention of the provisions of Article IV, Section 1, hereof, whether or not such extension be by or with the consent of the Company such coupon shall not be entitled in case of default hereunder to any benefit of or from this Indenture, except subject to the prior payment in full of the principal of all the bonds and of all coupons not so transferred, with interest thereon at the same rate as was borne by said bonds. If any coupon on any of said bonds at or after maturity, shall be owned by the Company, then such matured coupon shall not be entitled to the benefit or security of this Indenture; and the Company covenants that all such coupons so owned by it at or after their maturity shall promptly be cancelled.

Sec. 2. If any one of the following events, herein called events of default, shall happen, that is to say:

1. Default shall be made in the payment of any instalment of interest on any of the bonds when and as the same shall become due and payable in accordance with the terms of this Indenture and such default shall continue for the period of thirty days;

2. Default shall be made in the payment of the principal of any of the bonds, when and as the same shall become due and payable, whether at maturity or by declaration or otherwise;

3. Default shall be made in the payment of any instalment of the Sinking Fund in accordance with the terms of this Indenture and such default shall continue for a period of thirty days;

4. Default shall be made in the observance or performance of any other of the covenants of this Indenture or of any supplemental indenture permitted by this Indenture and said default shall continue for the period of ninety days after written notice by the Trust-

tee shall have been given to the Company, specifying such default and requiring the same to be remedied, and shall not be made good or secured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate made therefor:

5. By the decree of a court of competent jurisdiction the Company shall be adjudicated bankrupt, or, if an order shall be made or an effective resolution passed for the winding up of the Company, or a receiver be appointed, unless such resolution shall be for the purposes of consolidation, merger or sale as specified in Article XI hereof:

6. The Company shall institute proceedings in voluntary bankruptcy, or shall make an assignment for the benefit of creditors or shall admit in writing its inability to pay its debts as they become due or corporate action shall be taken by the Company in furtherance of any of the aforesaid purposes:

7. The Company shall fail to fully perform the obligations now assumed by it under and by virtue of a contract between the Company and the Colorado Interstate Gas Company dated January 3rd, 1928, and the three contracts between the Company and the Amarillo Oil Company each dated January 3rd, 1928, duplicate originals of which are delivered to the Trustee simultaneously with the execution and delivery of these presents, or which may be hereafter assumed by it under and by virtue of any amendments of said contracts made in the manner in this Indenture provided:

8. The Company shall fail to require the Colorado Interstate Gas Company to fully perform all the obligations assumed by it in its contract with the Company dated January 3rd, 1928 or to require the Amarillo Oil Company to fully perform all of the obligations assumed by it in its three contracts with the Company each dated January 3rd, 1928, duplicate originals of which are delivered to the Trustee simultaneously with the execution and delivery of these presents, or all the obligations which may be hereafter assumed by said companies under and by virtue of any

amendments of said contracts made in the manner in this Indenture provided;

9. If the Company shall fail to drill such wells or make such improvements or conduct such operations or make such purchases of gas as shall be specified in any demand made by the Trustee pursuant to the provisions of Section 10 of Article IV hereof;

10. If, without first obtaining the consent of the Trustee thereto, the Company shall make any contract for the sale of gas in any substantial quantity, covering any period of more than thirty (30) days time, with any person, firm, corporation or association of persons, other than the contracts herein authorized, which in the opinion of the Trustee would tend to depreciate the trust estate or tend to impair the ability of the Company to successfully perform and carry out those contracts herein expressly authorized, and upon security of which the payment of the bonds herein provided for is predicated, or which shall tend to impair the security for the payment of said bonds;

11. If the Company violates any of the provisions of Section 13 of Article IV hereof;

12. Any default shall be made or act shall be done which shall be specified in any supplemental indenture permitted by this Indenture to constitute an event of default.

Then and in each and every such case during the continuance of such event of default, the Trustee may, and upon the written request of the holders of twenty-five per cent. of the amount of bonds then outstanding, shall, by notice in writing sent by registered mail to the Company and addressed to it at Independence, Kansas, or at such other address as may have been specified in a resolution of the Board of Directors of the Company, a certified copy of which shall have been furnished to the Trustee, declare the principal of and interest then accrued on all the bonds then outstanding to be due and payable, and upon such declaration, the same shall become and be immediately due

and payable, anything in this Indenture or in said bonds contained to the contrary notwithstanding.

Sec. 3. In case of the happening of any one or more of the events of default enumerated in Section 2 of this Article VI, then in each and every such event of default, during the continuance thereof, the Trustee shall be entitled to a receiver in a court of equity and the Trustee personally or by its agents or attorneys may enter upon and take possession of the trust estate or any part thereof and may exclude the Company, its agents and servants wholly therefrom, and the Trustee having and holding the same, either personally or by receivers, agents, servants or attorneys, may use, operate, manage and control said trust estate or any part thereof and conduct the business thereof to the best advantage of the holders of the bonds hereby secured; and upon every such entry, at the expense of the trust estate, from time to time may make all such necessary or proper repairs, renewals, replacements and useful alterations, additions, betterments and improvements to the trust estate as to the Trustee may seem judicious, and may purchase or otherwise secure the use of additional tools and machinery for use thereon, and either in the name of the Company, or otherwise, as the Trustee shall deem best, may manage and operate the trust estate or any part thereof and exercise all rights and powers of the Company in respect thereof, and the Trustee shall be entitled to collect and receive all earnings, income, rents, issues and profits thereof; and after deducting expenses incurred hereunder and all payments which may be made for taxes, assessments, insurance and prior or other proper charges thereon or up on any part thereof, as well as just and reasonable compensation for the services of the Trustee and all attorneys, agents, clerks, servants and other employes by it properly engaged, the Trustee shall apply the monies arising as aforesaid as follows:

In case the principal of the bonds hereby secured shall not have become due, to the payment of the interest in default in the order of the maturity of the instalments of such interest, with interest thereon at the same rate as was borne by the bonds on which such interest shall be in default; such payments to be made

ratably to the persons entitled thereto, without discrimination or preference.

In case the principal of the bonds hereby secured shall have become due, by declaration or otherwise, to the payment of the amounts due for interest on and principal of said bonds, ratably to the persons entitled to such payment without any discrimination or preference.

These provisions, however, are not intended in any wise to modify the provisions of Section 1 of this Article VI, but are subject thereto.

In the event of the exercise by the Trustee of any of the rights and powers conferred upon it by the terms of this Section, the Trustee and its nominee or nominees are hereby irrevocably constituted and appointed the agents and attorneys of the Company, in its name and stead to use, operate, manage and control in whole or in part, so much and such parts of the Company's business as the Trustee may in its discretion deem necessary or appropriate to the operation of the several properties composing the trust estate, and to collect, and receive all earnings, income, issues and profits derived from or derivable from business so operated and to pay and apply the same in the manner hereinbefore prescribed in this Section; with full power in the Trustee to constitute others, either individuals or corporations, in the exercise of the whole or any part of the power hereby conferred.

If, after the application as aforesaid of the money, rentals and any other income of the trust estate and the operation thereof any surplus shall remain in the hands of the Trustee, the Trustee shall pay over such surplus to the Company; provided, however, that the Trustee shall not make any such payment if the Trustee has been notified in writing by not less than ten per cent. in amount of the bondholders that at the time the Company is in default under this Indenture.

Sec 4. In case of the happening of any of the events of default enumerated in Section 2 of this Article VI, then and in each and every such event of default, during the continuance of such default, either (a) the Trustee, per-

sonally or by agent or attorney, with or without entry, in its discretion, may sell, subject to any liens thereon which then shall be prior and superior to the rights of the Trustee under this Indenture, to the highest and best bidder who will assume the performance of the obligations of the Company under its contract bearing date the third day of January 1928, with the Colorado Interstate Gas Company for the sale of gas to that company, a duplicate original of which is delivered to the Trustee simultaneously with the execution and delivery of these presents, all and singular the trust estate, and all right, title and interest therein and right of redemption thereof, which sale shall be made at public auction at such place or places and at such time or times and upon such terms as the Trustee may fix and briefly specify in the notice of sale to be given as herein provided, or as may be required by law; or (b) the Trustee may proceed to protect and to enforce the rights of the trustee and of the holders of the bonds secured by this Indenture, by a suit or suits in equity or at law, whether for the specific performance of any covenant or agreement contained herein or in aid of the execution of any power herein granted, or for foreclosure or sale under this Indenture or for the enforcement of any other appropriate legal or equitable remedy, as the Trustee, being advised by counsel, may deem most effectual to protect and enforce any rights or duties hereunder.

Sec. 5. In case of the happening of any of the events of default enumerated in Section 2 of this Article VI, then at any time or times during the continuance of such events of default, it shall be the duty of the Trustee upon the written request of the holders of twenty-five per cent. in principal amount of the bonds then outstanding, and upon being indemnified as hereinafter provided, to take all steps needful for the protection and enforcement of its rights and the rights of the holders of the bonds issued and outstanding hereunder, and to exercise the power of entry or sale herein conferred or to be conferred by other deeds, acts, conveyances, transfers and other instruments as herein provided, or both, or to take appropriate judicial proceedings by action, suit or otherwise, as the Trustee, being advised by counsel, shall deem most expedient in the

interest of the holders of the bonds hereby secured; but anything in this Indenture to the contrary notwithstanding, the holders of a majority in principal amount of the bonds hereby secured then outstanding from time to time shall have the right to direct and control the action of the Trustee in any proceedings under this Article VI, including the right to cause the stay or abandonment of any such proceeding or the waiver of any default hereunder; provided, however, that nothing in this Section 5 shall be deemed to require the Trustee to perform in any jurisdiction any act which by the law of such jurisdiction the Trustee is forbidden or is without legal capacity to perform, or to perform any act which in its opinion would involve it in expense or liability without being indemnified to its satisfaction or to perform any act which it may be advised by counsel it should not perform.

Sec. 6. In the event of any sale, whether made under the power of sale granted herein or in any other deed, act, conveyance, transfer or other instrument herein provided for, or under or by virtue of judicial proceedings, or of some judgment or decree of foreclosure and sale, the whole of the trust estate shall be sold in one parcel and as an entirety and the purchaser or purchasers at any sale shall be required to assume the performance of the obligations of the Company under its contract bearing date the third day of January 1928, with the Colorado Interstate Gas Company for the sale of gas to that company, a duplicate original of which is delivered to the Trustee simultaneously with the execution and delivery of these presents.

Sec. 7. In case of any sale by the Trustee in the exercise of the powers herein conferred upon it, such sale shall be made at the Court House door in the City of Amarillo, the county seat of Potter County, Texas, in which a part of the real and personal properties herein described is situated, and notice of such sale shall be given in the manner and form and for the length of time required by the Texas statutes for valid sales to be made under the powers of a Deed of Trust of properties situated in the State of Texas. In addition to the notice required to be given by the statutes of the State of Texas, the Trustee shall prepare and publish a notice at least six times in some

daily newspaper published in the English language of general circulation, in the Borough of Manhattan, in the City and State of New York which publication shall begin not more than sixty days and not less than thirty days prior to the proposed date of sale. Such notice shall properly identify this Indenture, shall state the time when and place where the sale is to be made, and shall contain a brief general description of the property to be sold. The purchaser or purchasers at any such sale shall be required to assume the performance of the obligations of the Company under its contract bearing date the third day of January 1928 with the Colorado Interstate Gas Company for the sale of gas to that company, a duplicate original of which is delivered to the Trustee simultaneously with the execution and delivery of these presents.

Sec. 8. From time to time the Trustee or other person acting therein may adjourn any sale to be made under the provisions of this Indenture by announcement at the time and place appointed for such sale or for such adjourned sale or sales; and without further notice or publication, such sale may be made at the time and place to which the same shall be so adjourned.

Sec. 9. Upon the completion of any sale or sales under or by virtue of this Indenture, the Trustee shall execute and shall deliver to the accepted purchaser good and sufficient deeds or other instruments conveying, assigning and transferring the property sold. The Trustee and its successors are hereby irrevocably appointed the attorneys of the Company, in its name and stead, to make all necessary conveyances and assignments of the property sold, and for that purpose they may execute all necessary deeds and instruments of assignment and transfer and may substitute one or more persons with like power, the Company hereby ratifying and confirming all that its said attorneys, or such substitute or substitutes, shall lawfully do by virtue hereof. Nevertheless, the Company, if so requested by the Trustee, shall join in the execution and delivery of such conveyances, assignments and transfers.

Any such sale made under or by virtue of this Indenture or any other deed, act or other instrument provided for herein, whether under the power of sale herein granted or

pursuant to judicial proceedings, shall operate to divest all right, title, interest, claim and demand, either at law or in equity, of the Company, in and to the property sold, and shall be a perpetual bar, both at law and in equity, against the Company, its successors and assigns, and against any and all persons, claiming or to claim the property sold or any part thereof, from, through or under the Company or its successors or assigns.

Sec. 10. The receipt of the Trustee, or other person authorized to receive the same, for the purchase money, shall be a sufficient discharge therefor to any purchaser of the property or any part thereof sold as aforesaid; and no such purchaser, or his representatives, grantees or assigns, after paying such purchase money and receiving such receipt, shall be bound to see to the application of such purchase money upon or for any trust or purpose of this Indenture, or in any manner whatsoever be answerable for any loss, mis-application or non-application of any such purchase money, or be bound to inquire as to the authorization, necessity, expediency or regularity of any such sale.

Sec. 11. In case any sale under the provisions of this Article VI be made on account of default whether made under the power of sale granted herein or by any other deed, act or other instrument or pursuant to judicial proceedings, the whole of the principal sum of the bonds hereby secured, if not previously due, shall at once become due and payable, anything in said bonds or in this Indenture to the contrary notwithstanding.

Sec. 12. The purchase money, or the proceeds or avails of any such sale, whether made under the power of sale granted herein or by any other deed, act or other instrument or pursuant to judicial proceedings, together with any other sums which then may be held by the Trustee under any of the provisions of this Indenture as part of the trust estate, shall be applied as follows:

First: To the payment of the cost and expenses of such sale, including a reasonable compensation to the Trustee, its agents, attorneys and counsel, and of all expenses, liabilities or advances made or incurred by the Trustee under this Indenture, and to the payment

of all taxes, assessments and liens prior to the liens of this Indenture, and other deeds, acts, or other instruments provided for herein except any taxes, assessments or other superior liens subject to which such sale shall have been made.

Second: To the payment equally and ratably of the whole amount then owing or unpaid for principal and interest, upon the bonds and coupons hereby secured with interest on the principal and the overdue instalments of interest at the same rate as was borne by the bonds whereof the principal or instalments of interest may be overdue; and in case such proceeds shall be insufficient to pay in full the whole amount so due and unpaid, then to the payment of such principal and interest, without preference or priority of principal or interest, or of interest over principal; or of any instalment of interest over any other instalment of interest, ratably to the aggregate of such principal and accrued and unpaid interest, except as otherwise provided in Section 1 of this Article VI.

Third: Any surplus remaining after the payments provided for in paragraphs *First* and *Second* of this Section, shall be paid over to the Company, its successors or assigns, or to whomsoever may be lawfully entitled to receive the same.

Sec. 13. Upon any sale as aforesaid, any purchaser, for the purpose of making settlement or payment for the property purchased, shall be entitled to use and apply any bonds and any matured and unpaid coupons issued under this Indenture, by presenting said bonds and coupons so that there may be credited as paid thereon the sums applicable to such payment pursuant to the provisions of Section 12 of this Article VI; and such purchaser shall be credited on account of the purchase price of the property purchased with the sums payable out of the net proceeds of such sale on the bonds and coupons so presented; and at any such sale any bondholder or any other person may bid for and purchase such property, and may make payments therefor as aforesaid, and upon compliance with the terms of sale, may hold, retain and dispose of such property without further accountability therefor.

Sec. 14. The Company covenants and agrees that it will not at any time insist upon or plead, or in any manner whatever claim or take the benefit or advantage of, any stay or extension allowed by any law now or at any time hereafter in force; nor will it claim, take or insist on any benefit or advantage from any law now or hereafter in force providing for the valuation or appraisal of the trust estate, or any part thereof prior to any sale or sales thereof to be made pursuant to any provision contained in this Indenture or any deeds, acts, or other instruments provided for herein or to the decree of any court of competent jurisdiction, nor after any such sale or sales will it claim or exercise any right conferred by any statute enacted pursuant to the laws of any State or sub-division thereof, or otherwise, to redeem the property so sold, or any part thereof; and it hereby expressly waives all benefit and advantage of any such law or laws and covenants that it will not hinder, delay or impede the execution of any power herein granted and delegated to the Trustee, but that it will suffer and permit the execution of every such power as though no such law or laws had been made or enacted.

Sec. 15. No holder of any bond or coupon hereby secured shall have any right to institute any suit, action or proceeding in equity or at law for the foreclosure of the liens and charges of this Indenture or of other deeds, acts or instruments executed pursuant hereto or for the execution of any trust hereof or thereof or for the appointment of a receiver, or for any other remedy hereunder or thereunder, unless the holders of twenty-five per cent. in principal amount of the bonds hereby secured, then outstanding, shall have requested the Trustee in writing to take action in respect of the matter complained of, and shall have afforded to it a reasonable opportunity either to proceed to exercise the powers herein granted, or to institute such action, suit or proceeding, and shall also have offered to the Trustee security and indemnity satisfactory to it against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused or neglected to act on such notice, request and indemnity; and such notification, request and offer of indemnity are hereby declared, in every such case, at the option of the Trustee, to be condi-

tions precedent to the execution of the powers and trusts of this Indenture and to any action or cause of action for foreclosure as aforesaid or for the appointment of a receiver or for any other remedy hereunder or thereunder; it being understood and intended that no one or more holders of bonds and coupons shall have any right in any manner whatever to affect, disturb, or prejudice the liens of this Indenture or any instruments supplemental hereto by his or their action, or to enforce any right hereunder or thereunder, except in the manner herein provided, and that all proceedings at law or in equity shall be instituted, had and maintained in the manner herein provided and for the equal benefit of all holders of such outstanding bonds and coupons. The Trustee in its own discretion may institute any suit, action or proceeding in equity or at law without the request of any bondholder or without the indemnity provision for which is herein made.

All rights of action under this Indenture may be enforced by the Trustee without the possession of any of the bonds or coupons hereby secured or by the production thereof on the trial or other proceedings relative thereto, and any such suit or proceedings instituted by the Trustee shall be brought in its own name, and any recovery of judgment shall be for the ratable benefit of the holders of said bonds and coupons and the other indebtedness hereby secured, except as otherwise provided in Section 1 of this Article VI.

Sec. 16. Except as herein expressly provided to the contrary, no remedy herein conferred upon or reserved to the Trustee, or to the holders of bonds hereby secured, is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute.

Sec. 17. No delay or omission of the Trustee or of any holders of bonds secured by this Indenture to exercise any right or power arising from any default continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or an acquiescence therein.

Sec. 18. The Company covenants and agrees that (1) in case default shall be made in the payment of any interest

due and payable on any bond or bonds at any time outstanding and secured by this Indenture, and such default shall have continued for the period of thirty days, or (2) in case default shall be made in the payment of the principal of any of such bonds when the same shall have become due and payable, whether upon the maturity of said bonds, or upon a declaration as authorized by this Indenture, or upon a sale as set forth in Section 11 of this Article VI, or (3) in case default shall be made in the payment of any instalment of the Sinking Fund in accordance with the terms of this Indenture and such default shall continue for a period of thirty days—then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the bonds and coupons hereby secured, then outstanding, the whole amount that then shall have become due and payable on all such bonds and coupons then outstanding, for interest or principal, or both, as the case may be, with interest upon the overdue principal and instalments of interest at the rate of six per cent. (6%) per annum; and in case the Company shall fail to pay the same forthwith upon such demand, the Trustee in its own name, and as the Trustee of an express trust, shall be entitled to recover judgment against the Company for the whole amount so due and unpaid.

The Trustee shall be entitled to recover judgment as aforesaid, either before or after or during the pendency of any proceedings for the enforcement of its rights under this Indenture or under any other deeds, acts or instruments executed pursuant hereto, and the right of the Trustee to recover such judgment shall not be affected by any entry or sale hereunder, or under any instrument supplemental hereto, or by the exercise of any other right, power or remedy for the enforcement of the provisions of this Indenture, and in case of a sale of the property subject to this Indenture, or any instrument supplemental hereto, and of the application of the proceeds of sale to the payment of the debt secured by this Indenture, the Trustee in its own name, and as trustee of an express trust shall be entitled to enforce payment of and to receive all amounts then remaining due and unpaid upon any and all of the bonds issued under this Indenture then outstanding for the benefit of the holders thereof, and shall be entitled to

recover judgment for any portion of the debt remaining unpaid, with interest at the rate of six per cent. (6%) per annum. No recovery of any such judgment by the Trustee and no levy or any execution under any such judgment upon property subject to this Indenture, or any instruments supplemental hereto, or upon any other property, shall in any manner or to any extent affect the lien of this Indenture, or any instruments supplemental hereto, upon the trust estate or any part thereof, or any rights, powers or remedies of the Trustee hereunder, or any lien, rights, powers or remedies of the holders of the bonds hereby secured, but such lien, rights, powers and remedies of the Trustee and of the bondholders shall continue unimpaired as before.

Any monies thus collected by the Trustee under this section shall be applied by the Trustee toward payment of the amounts then due and unpaid upon such bonds and coupons in respect of which such monies shall have been collected, ratably and without any preference or priority of any kind (except as provided in Section 1 of this Article VI), according to the amounts due and payable upon such bonds and coupons, respectively, at the date fixed by the Trustee for the distribution of such monies, upon presentation of the several bonds and coupons and stamping such payment thereon, if partly paid, and upon surrender thereof, if fully paid.

Nevertheless, the foregoing provisions of this Section and the powers hereby granted to the Trustee are strictly subject to the limitation that, if by the commencement of any action at law to recover judgment for any amount due and unpaid upon said bonds or coupons or hereunder, or by the exercise of any other remedy prior to or concurrently with proceedings to enforce the lien of this Indenture, or any instruments supplemental hereto, upon the trust estate, the lien of this Indenture or any instruments supplemental hereto, upon any of the trust estate or the security hereby provided for would be surrendered, waived or lost, then, despite the foregoing provisions of this Section, the Trustee shall not have power to commence such action at law or to exercise such prior or concurrent remedy.

The Trustee may, for the purpose of determining whether or not by the commencement of any such action at law or by the exercise of any such other remedy the lien of this In-

denture, or any instruments supplemental hereto, upon any of the trust estate or the security hereby, provided would be surrendered, waived or lost, take and follow the opinion of counsel approved by it, who may be counsel for the Company, and the Trustee shall under no circumstances be in any way liable or responsible in any court or forum to the holders or owners of any of the bonds and coupons issued hereunder or to any other person for any action taken or omitted by it in accordance with such opinion of counsel.

Sec. 19. The Trustee shall, at the expense of the Company, have power to institute and to maintain such suits and proceedings or to take such other action as it may be advised shall be necessary or expedient to prevent any impairment of the security hereunder by any acts of the Company, or of others, in violation of this Indenture, or unlawful, or as the Trustee may be advised shall be necessary or expedient to preserve and to protect its interests and the security and interests of the holders of the bonds and coupons issued hereunder, in respect of the property subject to this Indenture, or in respect of the income, earnings, rents, issues and profits thereof, including power to institute and to maintain suits or proceedings to restrain the enforcement of, or compliance with, or the observance of, any legislative or other governmental enactment, rule or order that may be unconstitutional or otherwise invalid, if the enforcement of, or compliance with, or observance of, such enactment, rule or order would impair the security hereunder or be prejudicial to the interests of the holders of the bonds issued hereunder or of the Trustee.

Sec. 20. Upon filing bill in equity or upon commencement of any other judicial proceedings to enforce any right of the Trustee or of the bondholders under this Indenture, the Trustee shall be entitled to exercise the right of entry and also any and all other rights and powers herein conferred and provided to be exercised by the Trustee upon the occurrence and continuance of default as herein provided, and as a matter of right the Trustee shall be entitled to the appointment of a receiver of the mortgaged premises and property and of the earnings, income, revenue, rents, issues or profits thereof, with such other powers as the court making such appointment shall confer.

See 21. Nothing contained in this Indenture, or in the bonds issued hereunder, expressed or implied, is intended, or shall be construed, to give to any person or corporation, other than the parties hereto and the holders of bonds and coupons secured by this Indenture any legal or equitable right, remedy or claim under or in respect of this Indenture, or under any covenant, condition or provision herein and therein contained; all such covenants, conditions and provisions being intended to be and being for the sole and exclusive benefit of the parties hereto and thereto and of the holders of bonds and coupons issued hereunder.

CARL H. SCHUTTE, a witness for the Commission, and its principal Examiner of Accounts, testified concerning the organization and corporate history of Canadian as follows (Vol VI, pp. 850-857):

By Mr. March:

Q. Have you made an examination of the books and records and accounts of the Canadian River Gas Company?

A. Yes.

Q. Where was that examination made?

A. The work that I personally did was at Colorado Springs and work was performed under my supervision at the office in New York City.

Q. Have you made an examination to ascertain the corporate history of the Canadian River Gas Company?

A. That's right.

Q. I wonder if you can just give us briefly the corporate history of that company?

A. All right, sir.

Mr. Campbell: If the Examiner please, at this point, Colorado Interstate Gas Company wishes to make the same objection to Mr. Schutte's testimony as heretofore made to that of Mr. O'Connor, which I won't repeat in detail, but the reasons being that he's employed solely by the Power Commission and not an impartial witness and for the reasons stated at length at the time we objected to Mr. O'Connor's statement. We believe we are denied due process.

Mr. March: If it please the Examiner, I want to state here for the record, that objection is really humorous, because on the same theory the people they pay to testify here would be disqualified from testifying because they would be influenced by the people who pay them, and furthermore, I'd like to direct the Examiner's attention to this; that anyone who knows anything about administrative procedure at all knows that this hearing was constituted by due process, that the courts have sustained an examiner sitting in a case paid by the Commission and other employees of that Commission acting as witnesses in the case. Why, it would be—it's just as sensible to say that opposing counsel shouldn't practice before a court because he's an officer of the court. That's just about what the whole thing amounts to; so I just want the record to show, and I challenge counsel, if they've got something here, to bring in the cases and show us in regard to the situation here.

Mr. Campbell: If the Examiner please, I don't want to argue the matter. I simply want to preserve whatever legal rights we've got. We don't want to burden the record with repeating that objection to every F. P. C. witness, and if it may be understood that we have interposed that objection to all Federal Power Commission witnesses, we won't be interrupting the proceeding further. We simply wish to preserve our rights, whatever they may be.

The Trial Examiner: Mr. Keffer?

Mr. Keffer: I just want the record to show that the Canadian River also makes the same objection for the reasons as given by the Colorado Interstate.

The Trial Examiner: As far as the Examiner is concerned, of course this is an administrative procedure, and the Examiners, of course, have no objection to counsel stating their position or preserving what rights counsel deem that it has in the matter.

The objection will be overruled and it will be perfectly all right, Mr. Campbell, if you desire to make such an objection to each of Commission's counsel witnesses. The objection will be overruled.

You may proceed, Mr. March.

By Mr. March:

Q. You may continue, Mr. Schutte.

A. The Canadian River Gas Company was incorporated under the laws of the state of Delaware on February 24, 1928, with an authorized capital stock of 25,000 shares, without par value. Its charter provides for perpetual existence.

The organization of Canadian River Gas Company appears to have been pursuant to the Memorandum of Stipulations agreed upon between Southwestern Development Company, Cities Service Company, and Standard Oil Company (New Jersey), dated April 5, 1927.

The nature of the business to be transacted is set forth in the Certificate of Incorporation—

Mr. Keffer: Now, if the Examiner please, just there—I haven't seen this statement, but the witness obviously has drawn a conclusion which I think is subject to an objection, in giving an assumption upon his part as to the reasons for the incorporation of Canadian River.

Now, again, if I might have read the statement in its entirety, maybe I would have no objection. Otherwise, I hesitate to let it go without objection, not knowing what is coming.

Mr. March: Why don't you reserve your objection until you hear the statement? In other words, this witness is testifying here. He just happens to be reading his testimony into the record, just like Mr. Hill read his into the record.

Mr. Keffer: Well, of course, the objections were made as he went along and copies were available whereby they could—I don't know that it make a whole lot of difference.

The Trial Examiner: Let me say this, Mr. Keffer, that of course the witness made and did state a conclusion there, no doubt, but these statements will be carefully weighed and gone into, and perhaps we may—let the witness proceed. If you desire, the Examiner later will hear you on a motion to strike.

Mr. Keffer: All right, if that may be understood, because I may not have any.

The Trial Examiner: You understand in the first instance, Mr. Keffer, the statement of the witness will be weighed for whatever the testimony might be worth.

You may proceed, Mr. Schutte.

The Witness: The nature of the business to be transacted is set forth in the Certificate of Incorporation. In general the corporation was organized with broad powers to carry on a business in gas, oil, and other extractive enterprises. It is worthy of note, however, that a proviso in the Certificate of Incorporation specifies that the broad powers, contained therein shall not be construed as authorizing the corporation to transport gas and oil for others as a carrier for hire, or to sell gas or oil, except by special contract, or to constitute the corporation a common purchaser of gas or oil, or a public utility corporation.

The incorporators and original subscriptions to capital stock were:

N. K. Moody, Independence, Kansas	98 shares
Dana H. Kelsey, Independence, Kansas	1 share
Fred S. Cook, Tulsa, Oklahoma	1 share
Total	100 shares

The Board of Directors at a meeting held on March 27, 1928 authorized the issuance of one hundred shares of capital stock of the corporation to the original incorporators or their assignees upon receipt of payment therefor at the rate of one dollar per share, and issuance to the Southwestern Development Company or to its order 24,900 shares of the capital stock upon payment therefore at the rate of one dollar per share. The records, however, show the issuance and delivery of 24,995 shares of capital stock to Southwestern Development Company and the issuance of five additional shares to other parties for a total consideration of one dollar.

The differences between the transaction as authorized and as executed were eliminated by action of the stock-

holders in annual meeting on March 7, 1933, when the transaction as executed was ratified.

The capital stock as originally issued on June 5, 1928 was to the following:

Southwestern Development Company	24,995 shares
W. S. Fitzpatrick	1 share
N. K. Moody	1 share
A. R. Jones	1 share
R. W. Gallagher	1 share
J. M. Parker	1 share
Total	25,000 shares

The requirement that directors be stockholders was annulled on June 10, 1935, and the qualifying shares were transferred to Southwestern Development Company; thus at December 31, 1939 there was outstanding only capital stock certificate No. 12, dated May 19, 1939, issued to Southwestern Development Company for 25,000 shares or all of the capital stock outstanding as of December 31, 1939.

Colorado Interstate Gas Company provided all of the funds required to finance Canadian River Gas Company through the purchase of the latter company's bonds or by advances secured by notes. Canadian River Gas Company's trust indenture is to Chase National Bank, New York, Trustee, successor Trustee to the Equitable Trust Company of New York; is dated June 1, 1928; and covers its "First Mortgage and Collateral Trust Twenty Year Six Per Cent Sinking Fund Gold Bonds" payable June 1, 1948, of which there were issued,

June 27, 1928	\$8,470,000.00
December 3, 1928	740,000.00
December 30, 1929	1,790,000.00
Total	\$11,000,000.00

all of which were acquired by the Colorado Interstate Gas Company.

Beginning June 1, 1930 and periodically thereafter, bonds were redeemed through the sinking fund in accordance with

trust indenture provision. On December 31, 1939 the total amount of bonds outstanding was \$5,057,000.00, owned by Colorado Interstate Gas Company.

Canadian River Gas Company six per cent notes to Colorado Interstate Gas Company outstanding as of December 31, 1939 was \$1,348,254.14. These notes have been issued from time to time by Canadian River Gas Company to finance its construction. They are redeemable in equal monthly installments over a period of twenty years from the date of issuance or by May 31, 1948, whichever is the shorter period. The interest is payable semi-annually on January 1st and July 1st.

(Vol. VI, pp. 850-857.)

5. Colorado Interstate Purchases Rights of Ways, Highway Crossing Permits, Constructs Its Properties and Begins Business. Description of Its Business.

As shown by Exhibit 1, the project parties had tentatively agreed upon FB&D as engineers and operators of the property. Edgar G. Hill, Vice President of FB&D, testified that early in the summer of 1927, his firm was asked to put survey and right of way crews on the job "with the knowledge that the project might never materialize. * * * If it didn't materialize we were to get our out-of-pocket expenses and that's all." (Hill, Vol. II, pp. 222, 223.)

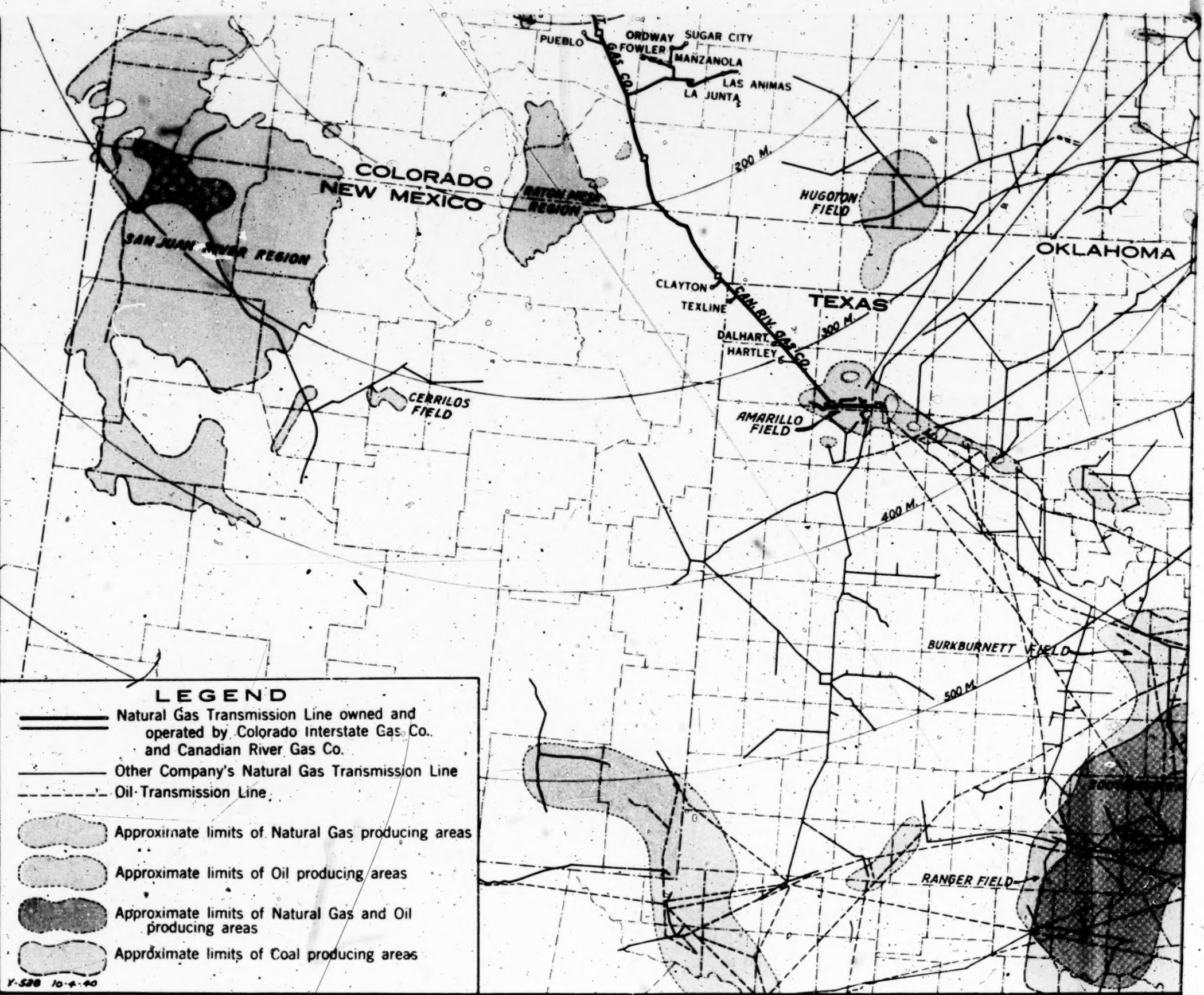
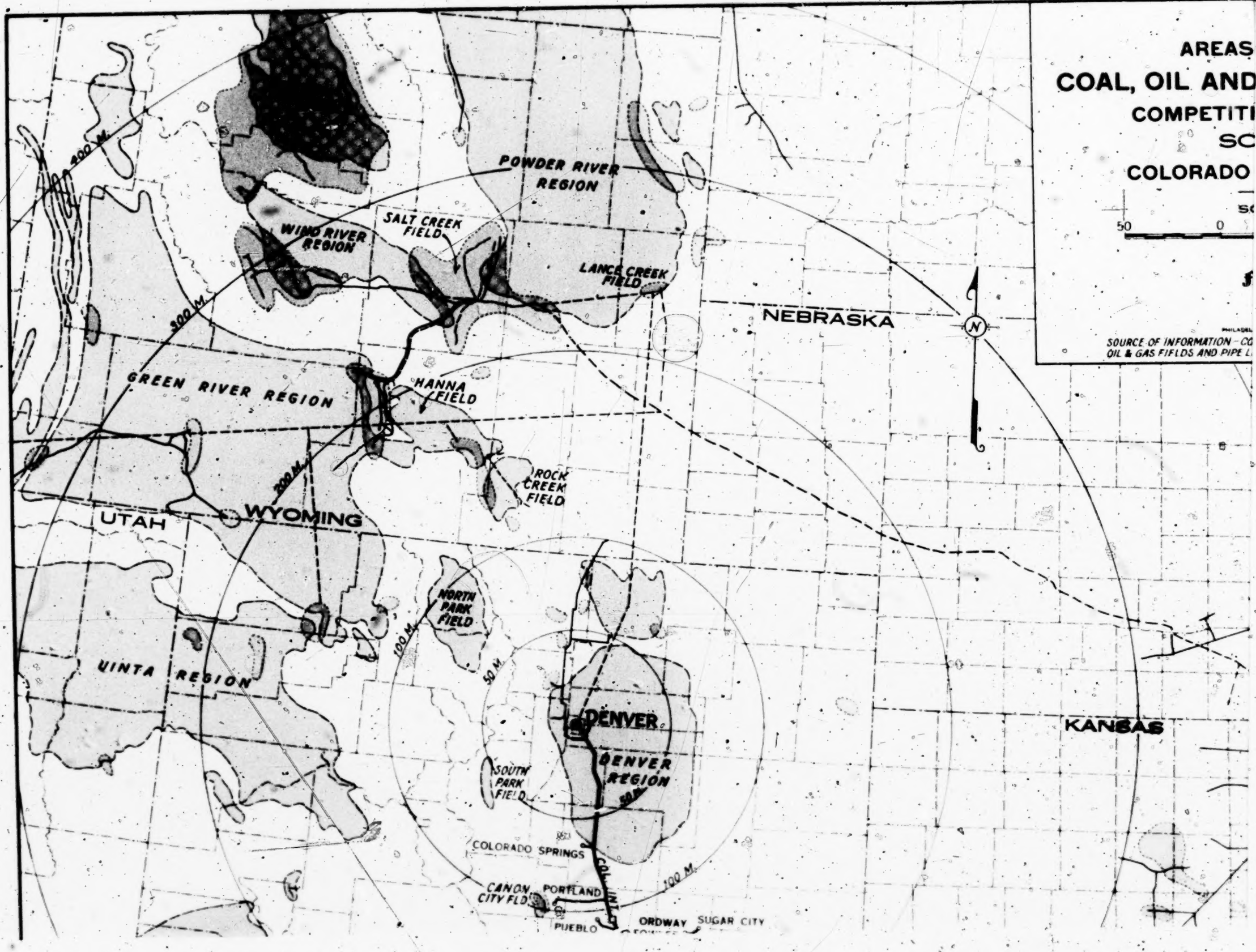
Maps of the transmission line are contained in Exhibits 5, 13, 36-K, 36-L, 36-M, 36-O, 36-P, 68 and 70 introduced by the companies and in Exhibits 44, 46 and 48 introduced by the Commission.

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AREAS COAL, OIL AND COMPETITIVE SOURCES COLORADO



SOURCE OF INFORMATION - CO
OIL & GAS FIELDS AND PIPE L



LEGEND

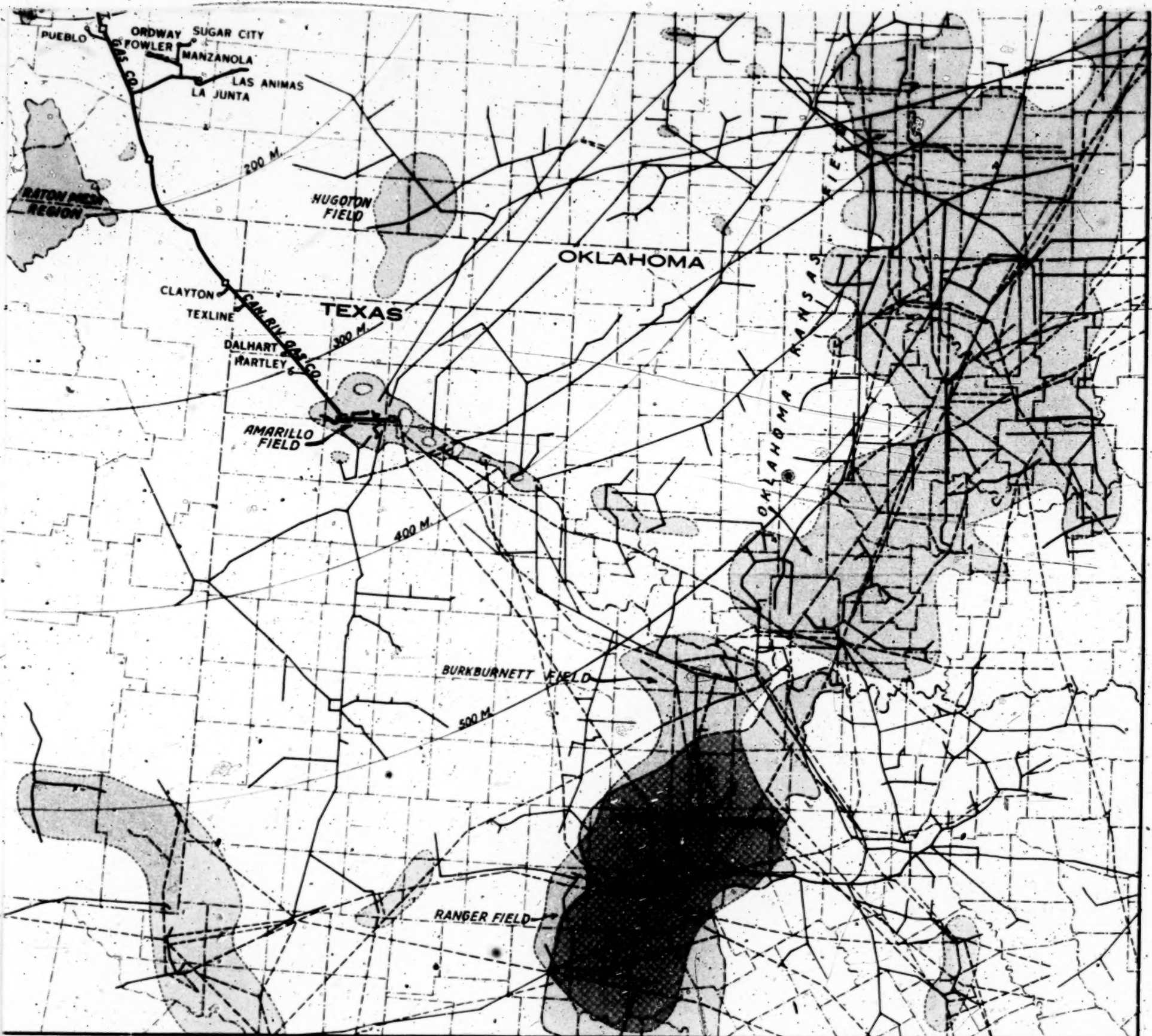
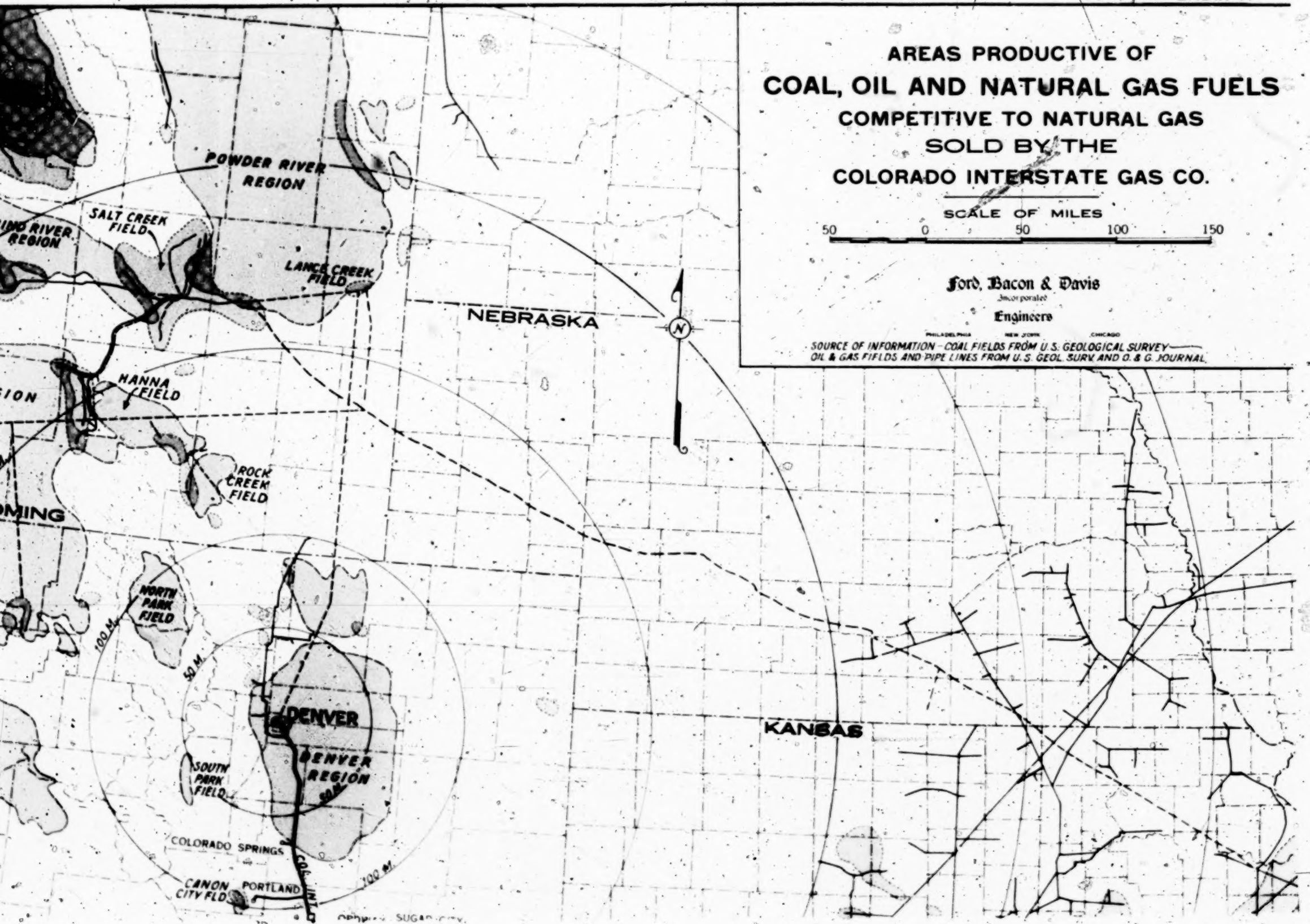
- Natural Gas Transmission Line owned and operated by Colorado Interstate Gas Co. and Canadian River Gas Co.
- Other Company's Natural Gas Transmission Line
- - - Oil Transmission Line
- Approximate limits of Natural Gas producing areas
- Approximate limits of Oil producing areas
- Approximate limits of Natural Gas and Oil producing areas
- Approximate limits of Coal producing areas

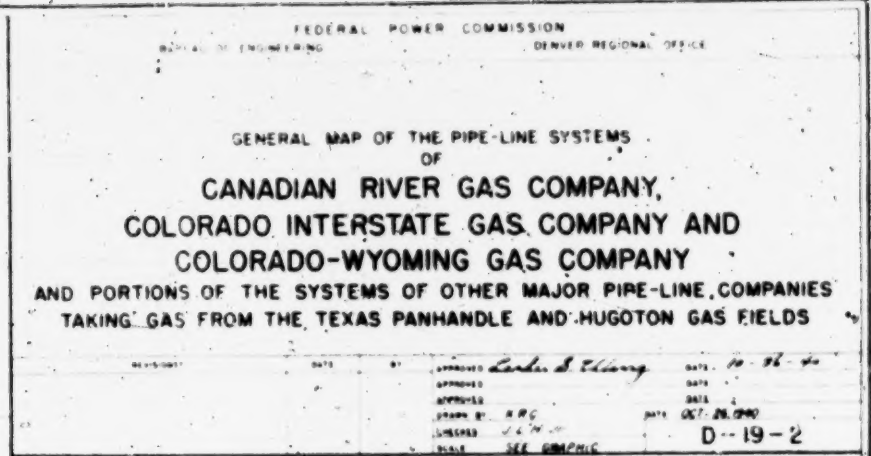
AREAS PRODUCTIVE OF
COAL, OIL AND NATURAL GAS FUELS
COMPETITIVE TO NATURAL GAS
SOLD BY THE
COLORADO INTERSTATE GAS CO.

SCALE OF MILES
50 0 50 100 150

Ford, Bacon & Davis
Incorporated
Engineers

SOURCE OF INFORMATION—COAL FIELDS FROM U.S. GEOLOGICAL SURVEY—
OIL & GAS FIELDS AND PIPE LINES FROM U.S. GEOL. SURV. AND O. & G. JOURNAL.

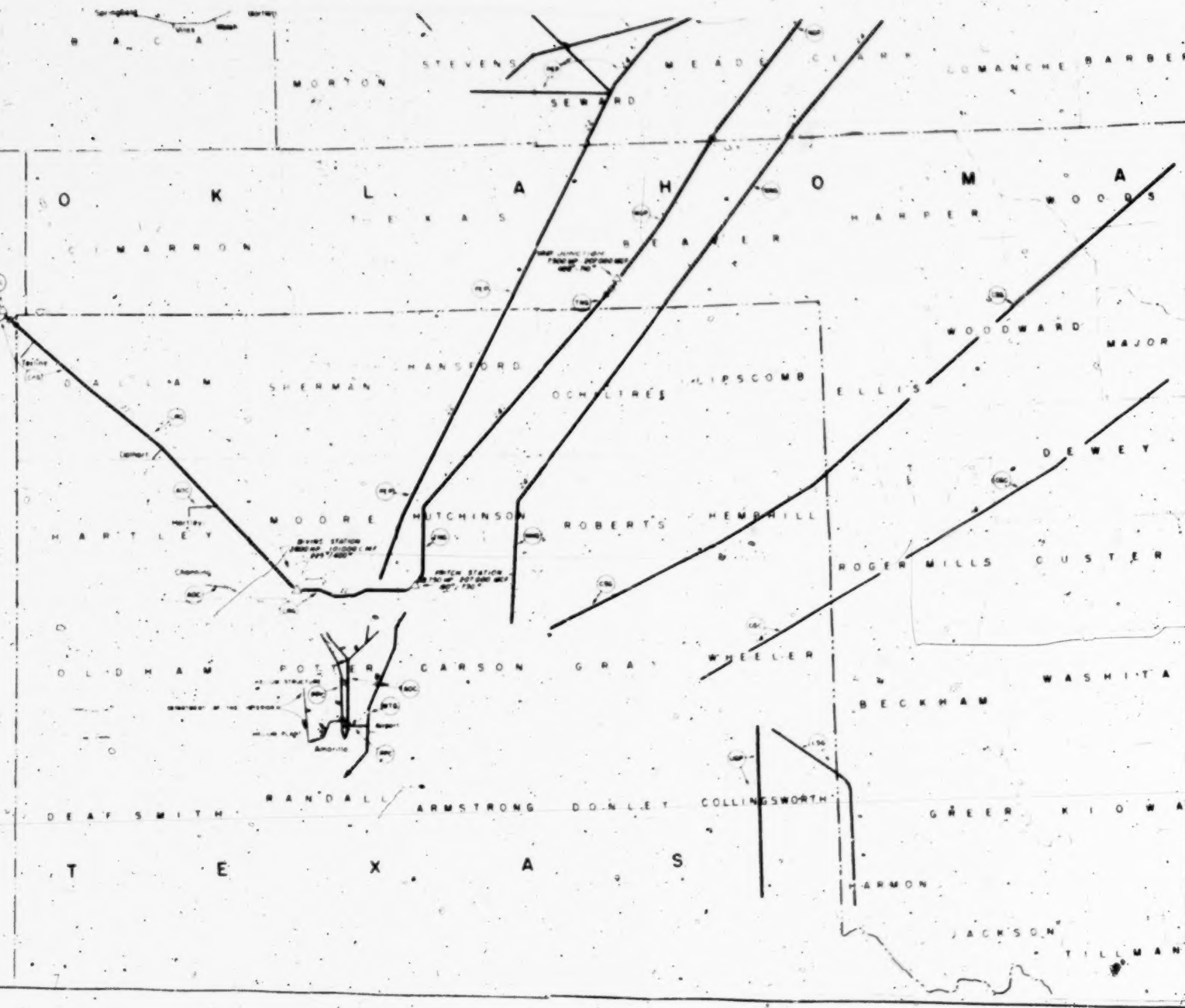




NEW MEXICO

OWNERSHIP

- (AOC) AMARILLO OIL COMPANY
- (CUC) CONSOLIDATED GAS UTILITIES CORPORATION
- (CGL) CENTRAL GAS UTILITIES COMPANY
- (CIG) COLORADO INTERSTATE GAS COMPANY
- (CRG) CANADIAN RIVER GAS COMPANY
- (CSG) CITIES SERVICE GAS COMPANY
- (CWE) COLORADO WYOMING GAS COMPANY
- (GPI) GOODSTEIN PIPE LINE COMPANY
- (HGC) HIGHWAY GAS COMPANY
- (LSG) LONE STAR GAS COMPANY
- (NPG) NATURAL GAS PIPELINE COMPANY OF AMERICA
- (NNG) NORTHERN NATURAL GAS COMPANY
- (PEP) PANHANDLE EASTERN PIPE LINE COMPANY
- (PPC) PANHANDLE PIPE LINE COMPANY
- (TNG) TEXOMA NATURAL GAS COMPANY
- (UGP) UNITED GAS PIPE LINE COMPANY
- (WTS) WEST TEXAS GAS COMPANY



Hill testified:

"I had in the summer of 1927 organized survey and rights of way crews and sent them to Texas and Colorado and when I arrived in Colorado Springs in October of 1927 the surveys had been practically completed and much of the rights of way had been purchased.

"The construction of the gathering lines in the field and the main line to a point just outside the city limits of Denver, with a branch line to a point just outside the city limits of Pueblo, was completed about July 1, 1928, and natural gas was then first delivered to the Public Service Company at Denver.

"After this construction was completed, I remained at Colorado Springs as manager of the project, still representing Ford, Bacon & Davis, Inc. I continued in this position until the end of 1929, when I was succeeded by Frank J. Trelease, who was also a representative of Ford, Bacon & Davis, Inc., and who became the manager of the properties.

"The lines were built in the name of, and the rights of way and highway crossing rights therefor obtained in the name of Ford, Bacon & Davis, Inc." (Vol II, pp. 177, 178.)

" * * * There could be no question then about utility status because Ford, Bacon & Davis certainly was not a public utility for one thing. We couldn't condemn it if we wanted to." (Vol. II, p. 224.)

"About the time of the completion of the construction work, and as I recollect, about June 5, 1928, these properties, including rights of ways and highway crossing permits, were transferred by Ford, Bacon & Davis, Inc. to Canadian River Gas Company and Colorado Interstate Gas Company, the Canadian River taking title to all of the properties and rights of way south of a point near Clayton, New Mexico, and the Colorado Interstate taking title to the properties north of said point. * * *

"In following out the instructions that we were to

operate the properties as private companies and not claim or exercise any of the rights of public utilities or common carriers, we never engaged in any local distribution or sale of natural gas. Neither company ever transported natural gas for others. Canadian River only transported its own gas from its own wells to the point of delivery to the Colorado Interstate near Clayton, New Mexico, and Colorado Interstate only transported its own gas from that point to points in Colorado. We never exercised or attempted to exercise the right of eminent domain or condemnation. We never obtained or applied for any franchise from any municipality. We never obtained or applied for any other special grants or privileges of any kind. We originally did obtain in the name of Ford, Bacon & Davis, Inc., and later, in a few cases, in the name of Colorado Interstate Gas Company, permits from the proper authorities in connection with the crossing or use of highways, and paid whatever fee or charge that was required. In applying for these highway crossing permits, we never represented that either of the companies was a common carrier or public utility. We never made any filings of tariffs or schedules of charges or prices, or of any rules or regulations, with any governmental authority. We never applied for or received any certificate of public convenience or necessity.

"Neither company ever advertised in newspapers or any other manner that it would sell gas to the public generally. All of the gas sold was under written contracts, after private negotiations concerning price, quantity, time of delivery, and so forth." (Vol. II, pp. 178, 179.)

H. F. Benson, of FB&D, who had actual charge of the procurement of rights of ways under Hill, testified:

" * * * I was sent by my employer to Colorado Springs, Colorado, in May 1927, primarily to take charge of the procurement of rights of way for the pipe line to be built between the Amarillo, Texas gas field and the Denver City gate.

"My employer instructed me that all rights of way had to be purchased; that the pipe line was not to be operated as a common carrier of public utility; that we were not to exercise or attempt to exercise any right of condemnation or eminent domain. I was also instructed that wherever it was necessary to cross underneath a highway we were to buy the right from the state or county, as the case might be, and were likewise not to represent that we were a common carrier or public utility.

"I proceeded under these instructions. We procured rights of way by purchase from the land owners and paid whatever was finally necessary after negotiation. We paid a minimum price of fifty cents per rod. In many cases we had to pay in excess of this rate, sometimes paying more than five dollars per rod. In a few cases we were not able to purchase a right of way over the surveyed or projected route of the line, and I advised my employer to that effect and the route of the line had to be changed in a few cases on that account. In one case that I now recall, we were only able to get the right of way by purchasing the land owner's whole tract of land. This was the case of Mr. Sowers, in Pueblo County, Colorado. We bought this whole farm because it was not feasible to change the route of the line. In some other cases we purchased the right of way where there was a mortgage on the land. Later, when the mortgage was foreclosed, and we were not able to come to terms with the holder of the indebtedness, we went in and purchased the whole farm or ranch at the foreclosure sale in order to protect our right of way." (Vol. II, pp. 273, 274, 275.)

Witness identified Exhibit 28, being typical right of way deed from M. W. Sellers, Las Animas County, Colorado, to FB&D covering a right of way of 163 rods in consideration of the payment of \$163, and witness stated that except for amount paid, the deed was typical of all right of ways procured from landowners "for the entire line in Colorado, New Mexico and Texas." (Vol II, pp. 275, 276.) Continuing, Benson stated:

" * * * After title to the line was conveyed by Ford, Bacon & Davis, Inc. there were some rights of way taken directly in the name of Canadian River Gas Company or Colorado Interstate Gas Company, as the case might be, but they, too were all purchased in the same manner as the rights of way from Sellers and Wootten, and the same form of right of way grant or deed was executed.

"My job was also to purchase from the county commissioners and the State Highway Department, wherever that was necessary, rights to cross underneath highways. In this connection I never represented to any highway department or board of county commissioners or any other public officials, that Ford, Bacon & Davis, Inc. was a public utility or common carrier. I simply stated that we were building the pipe line and wanted the right to cross underneath the highway, and we stood ready to pay whatever was required." (Vol. II, p. 277.)

Through Benson there was then introduced permits or grants from states and counties to cross underneath their highways with the pipe line. The State Highway Department of Colorado granted to FB&D on January 25, 1928 such rights (Exhibit 29). Douglas County, Colorado, made a grant to FB&D dated January 23, 1928 (Exhibit 30). The witness testified that nine other counties in Colorado, through which the line passed, granted similar rights (Vol. II, p. 280). Union County, New Mexico, granted rights to FB&D dated January 4, 1928 (Exhibit 31). Union County was the only one crossed in New Mexico (Vol. II, p. 280). The State Highway Department of New Mexico advised Benson that no consent from them was necessary to cross highways in Union County (Vol. II, p. 281). The grant from Potter County, Texas, to FB&D dated March 15, 1928 (Exhibit 32), the witness stated, was similar to grants from Moore, Hartley, Dallam, Hutchinson and Carson, the other counties crossed by the line in Texas (Vol. II, p. 282).

The State Highway Department of Texas granted, on February 1, 1928, the right to cross underneath State High-

way No. 5 at a point in Moore County, Texas (Exhibit 33), which Benson testified was typical of all other highway grants obtained in Texas (Vol. II, p. 283). The State of Colorado granted to FB&D right of way over certain state lands not a part of the public highways on July 11, 1928, for which \$985.90 was paid (Exhibit 34). The State of New Mexico made a similar grant to FB&D to cross state lands not included in public highways on November 28, 1927, for which \$62.75 was paid (Exhibit 35), which Benson said was typical of similar grants from the State of New Mexico.

The aforesaid Exhibits 28 to 35 were all admitted without objection (Vol. II, pp. 275 to 285, inc.).

Continuing the witness testified:

"I was instructed by Ford, Bacon & Davis, Inc. that in no case was the line or any lateral to enter any municipality. I was careful, in procuring right of ways to check the survey of the line, to be certain that it did not enter any municipality. I know of my own knowledge that the line does not lie inside the municipal limits of any town or city, and we never sought or acquired any right of way or privilege from any municipality." (Vol. II, pp. 285, 286.)

He then stated:

"While I was procuring right of ways and highway crossing rights for Ford, Bacon & Davis, Inc., I was approached by various people who inquired as to the possibility of their purchasing natural gas. Many of the land owners inquired as to whether they could arrange to tap the line and purchase natural gas. Some of them offered to sell a right of way much cheaper if they could arrange to purchase natural gas. Our people explained to them, under instructions from Ford, Bacon & Davis, Inc., that gas was not to be sold except to a limited number of purchasers under private contract and that we could not sell to the public generally. . . ."

"In some instances this refusal to sell gas resulted in the payment of very large prices for rights of way.

As an example of this refusal to sell gas generally, a group of people at Timpas, Colorado, inquired of me as to the possibility of purchasing gas for their community, and I wrote them a letter that our company was not engaged in the general distribution or sale of gas. (Vol. II, pp. 286, 287.)

“Since the original line was built, it has only been necessary to get a small amount of right of way for a few laterals. All of it has been purchased and paid for, and covered by grants or deeds just like the original purchases, except that it has been taken in the name of Colorado Interstate Gas Company or Canadian River Gas Company, as the case might be. Practically all the purchases have been in the name of the Colorado Interstate Gas Company.” (Vol. II, p. 288.)

The witness then testified that after completion of the line, he left the employment of FB&D and became an employee of Colorado Interstate. Continuing, he said:

“From the beginning, I have been generally familiar with the business of these companies. I know of all the sales now being made by Colorado Interstate Gas Company, and I know that it is not selling gas to any one except under contracts which have been filed with the Federal Power Commission, pursuant to General Order No. 53, and under six (6) additional contracts to six industrial consumers.

“To my knowledge neither company has ever filed any application for or procured any certificate of public convenience and necessity.

“To my knowledge neither company has ever filed any schedules or tariffs or rates or prices, or any rules or regulations covering service, with the Public Utilities Commission of the State of Colorado or of New Mexico, or of any other state, or with any municipal authority.

“In 1932 the Public Utilities Commission of the State of Colorado commenced a proceeding to deter-

mine whether Colorado Interstate Gas Company should be required to obtain a certificate of public convenience and necessity. . . . I familiarized myself with this case and was prepared to testify. Colorado Interstate Gas Company successfully resisted the claim."

"In connection with the business of these companies I never heard of either company advertising or in any way offering to sell gas to the public generally, and as I have already stated, I was instructed to the contrary, and advised people inquiring of me that gas was only being sold to a few customers under private contract."
(Vol. II, pp. 228 to 294.)

The witness testified that the Highway Department of Colorado and the counties granted the crossing rights applied for without any attempt to classify his company as a public utility. (Vol. II, pp. 299, 300.)

Payne, Colorado Interstate's first president, testified:

"The company never engaged in distributing gas generally to consumers, it made no filings of schedules with the Public Service Commission of Colorado, never advertised that it would sell gas to all who might apply, had no general schedule of rates, and made no sale of gas except pursuant to a special contract negotiated with each customer.

"It never sought or obtained any franchise right or privilege from any governmental authority to engage in the sale of gas and did not construct its pipeline in any municipality. It never held itself out as being willing to sell generally to the public. (Vol. IV, p. 514.)

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"The company did not have the power of eminent domain and never exercised or attempted to exercise that power. All of its property was purchased after negotiation with the owner." (Vol. IV, p. 515.)

Hendee, manager of both companies since July, 1936, testified.

" During my management the operation of

the companies has been carried on along the same lines as testified to in this case by Edgar G. Hill.

"During my management neither company has sold any gas to anyone except under written contracts. I am familiar with the contracts that each company filed with the Federal Power Commission pursuant to its General Order No. 53.

"Canadian River has not sold during my management any gas except under its written contracts so filed with the Commission.

"Colorado Interstate has not sold any gas except under its written contracts so filed with the Commission, and under six (6) additional written contracts covering the direct sale of gas not for resale to industrial consumers.

"The Canadian River has transported only its own gas from its own wells to the point of delivery to the Colorado Interstate near Clayton, New Mexico, and the Colorado Interstate has only transported its own gas from that point to points in Colorado.

"We never exercised or attempted to exercise the right of eminent domain or condemnation. We never obtained or applied for any franchise from any municipality. We never obtained or applied for any special grants of privileges of any kind. We have not had occasion to apply for any additional highway permits during my management. We never made any filings of tariffs or schedules of charges or prices, or rules or regulations, with any state or municipal authority. We never applied for or received any certificate of public convenience or necessity.

"We never advertised in newspapers or in any other manner that either company would sell gas to the public generally. All of the gas sold was under written contracts after private negotiations concerning price, quantity, time of delivery, and so forth." (Vol. III, pp. 309, 310.)

On cross examination Hendee testified that his company

exercised no supervision over the industrial load of Public Service in Denver and had no arrangement with that company other than the contract under which his company received 85% of the gross, and that his company had no joint bookkeeping with Public Service concerning industrial gas and that the two companies were entirely separate (Vol. III, pp. 320 to 325).

Q. Where do you maintain your office as manager of the two companies?

A. Colorado Springs.

Q. Are both offices under your direction there?

A. Yes, they are.

Q. Both the Colorado Interstate Gas Company and the Canadian River Gas Co.?

A. Yes.

(Vol. III, p. 332.)

6. Canadian River Gas Company Purchases Rights of Ways, Highway Crossing Permits, Acquires Gas Leaseholds and Wells, Constructs Its Properties and Begins Business. Description of Its Business

The testimony of Hill, Benson and Hendee respecting these matters as related to Colorado Interstate, and just abstracted, applied equally to Canadian River and will not be here repeated.

Spencer testified:

"During the fall of 1927 and the spring of 1928, representatives of Southwestern and Amarillo Oil Company were busily engaged in satisfying various title requirements of counsel in connection with gas rights and wells to be conveyed to Canadian River, including the discharge of certain outstanding mortgage liens. These gas rights and properties were finally cleared and conveyed to Canadian River by Amarillo Oil Company in the summer of 1928. Prior thereto, Canadian River had commenced drilling additional wells, constructing gathering lines and a transmission line from the field

(Bivins Station) to Clayton, New Mexico; also a compressor plant and gasoline absorption plant at Bivins. The first deliveries of gas by Canadian River to Colorado Interstate were made in the summer of 1928." (Vol. I, pp. 64, 65.)

The witness then described Canadian River's three contracts with Colorado Interstate, Amarillo Oil and Clayton Gas Company, respectively, abstracted hereinafter under that subject head. Continuing, he said:

"Canadian River has never filed any schedule of rates or prices for the transportation or sale of natural gas with any public body except Federal Power Commission, and in that instance it was done under protest with a full reservation of all legal and constitutional rights. Excluding one or two emergency transactions of minor importance, it has never offered to sell or sold gas to any parties except the customers heretofore named, and it has never been a purchaser of gas in the field. It has produced and owned all of the gas which it has transported, and it has never transported gas for others for hire.

"Canadian River has never exercised the right of eminent domain in connection with the condemnation of rights of way, or otherwise. Its pipe lines in some instances do cross public highways. In all cases rights of way have been acquired and paid for through private negotiation. It has never used the streets and alleys of any municipality, except in the City of Amarillo for a telephone line restricted to its own business use. It has not obtained rights of way from any state or other public body which were conditioned upon pipe line operations as a common carrier.

"Canadian River has no public grants or franchises of any character whatsoever, except its Certificate of Incorporation from the State of Delaware and its permit to do business as a foreign corporation in the state of Texas." (Vol. I, pp. 68, 69.)

Witness then referred to the requirement of the Texas

Railroad Commission in 1936 that it and all other pipe line companies file annual reports on forms supplied by the Commission and on which the term "gas utility" was used. The witness identified Exhibit 21, being facing sheet placed on this return and on all subsequent returns, reading in part:

"This report is filed by Canadian River Gas Company solely because of the demand made by the Railroad Commission to file the same.

"The Canadian River Gas Company denies that it is a gas utility or a public utility in fact or as defined by the Texas Statutes. This report is filed under protest and with a reservation of the right to contest at any time the authority of the Railroad Commission to require the filing of this or similar reports, and reserves the right at all times to contest any contention that the Company is a gas utility or public utility, as a matter of fact or as defined by the Texas Statutes."

Continuing the witness stated:

"Canadian River's business is divided into three principal operating functions—production, gathering, and transportation of natural gas. It does not occupy a monopolistic or exclusive position in any one of these fields, because of the facts hereinafter stated. The production and sale of natural gas, particularly in the Texas Panhandle field, is a highly competitive undertaking." (Vol. I, pp. 69, 70.)

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Continuing, he said:

"Pipeline rights of way and the facilities necessary for the transportation of gas are available to all who are willing and able to assume the hazards, and pay the costs, involved. Nine companies supplying domestic and industrial gas to Chicago, Minneapolis, Denver, Dallas, Des Moines, and other Cities have acquired leases in and operate pipe lines out of the Texas Panhandle

field. The business of transporting and selling gas in the territory occupied by Canadian River is open to all.

"Commencing in the year 1931, several so-called conversation (conservation) statutes have been enacted by the Texas State Legislature and orders issued pursuant thereto by the Texas Railroad Commission, which were designed to compel the gas pipe line companies to share their pipe line markets by purchasing gas from other producers in the field with unconnected wells. In each instance Canadian River has opposed the validity of these statutes and orders, either by filing an action against the Railroad Commission of Texas or by associating itself with others similarly situated in the prosecution of such an action. This position was taken by Canadian River because it believed that all of these statutes and orders represented an attempt to invade its private status and to abrogate and imperil its private contracts. The company's position has been consistently upheld by the courts." (Vol. I, pp. 70, 71.)

Witness further testified that the Texas franchise tax provided one method of computation for general business corporations and another for public utility corporations, and that Canadian River's tax had been computed on the basis of a general corporation and not of a public utility (Vol. I, p. 73).

In answer to the question as to why his company was not a common purchaser of gas in the field, he stated . . .

The Company Witness Spencer's full statement on this subject, taken from Vol. I of the official transcript, page 134, line 23, to page 136, line 22, is included under Title 2, (pages 448 to 449, this record.)

Exhibit B to Stipulation and Designation of Printed Record.

Supra, in connection with the description of the business of Colorado Interstate Gas Company, there is abstracted.

the evidence showing that Robert W. Hendee is the General Manager of both Colorado Interstate Gas Company and Canadian River Gas Company (Vol. III, pp. 308, 332, et seq.), with headquarters at Colorado Springs, Colorado. Canadian River Gas Company has a field operating office in Amarillo, Texas (Hendee, Vol. III, p. 332). The dispatching of gas over the whole system is under Mr. Hendee's charge, with the Chief Dispatcher operating out of the Colorado Springs office. Certain production records are kept in the Amarillo office, but the company's current books and records, especially those relating to its financial matters, and its main corporate records are in the Colorado Springs, Colorado, office (Vol. XVIII, pp. 2563, et seq.). Colorado Interstate Gas Company and Canadian River Gas Company are operated as a single unit (Rhodes, Vol. VIII, pp. 1143-1144), and under a common management (F. H. Lerch, Jr., President, Colorado Interstate Gas Company, Vol. 102 (1), p. 15850), with the basic data being kept in the Colorado Springs office (p. 15866).

The names of the officers and directors, as shown by Exhibit No. 143, are set forth below, following which are listed their addresses:

Officers:

N. K. Moody	President	Tulsa, Oklahoma
P. C. Spencer	Vice Pres.	New York, N. Y.
A. R. Jones	Vice Pres.	Kansas City, Mo.
R. E. Wertz	Vice-Pres.	Amarillo, Texas
Geo. Baird	Secretary and Treasurer	New York, N. Y.
J. O. Shields	Asst. Treasurer	Colo. Springs, Colo.
W. M. Wright	Asst. Secretary	Amarillo, Texas
E. A. Sickels	Asst. Secretary	Tulsa, Oklahoma

Directors:

N. K. Moody	Tulsa, Oklahoma
P. C. Spencer	New York, N. Y.
A. R. Jones	Kansas City, Mo.
R. K. Mullin	Kansas City, Mo.
E. A. Sickels	Tulsa, Oklahoma

7. Gas Sales Contracts of Canadian River Gas Company.

Spencer testified:

"Canadian River's gas sales through the operation and use of these properties and facilities are limited to three individual customers, i. e., Colorado Interstate, Amarillo Oil Company and Clayton Gas Company, all of which are covered by privately negotiated contracts, as shown in Exhibit No. 15. Deliveries to Colorado Interstate are made at two points (1) Clayton, New Mexico, for the Denver pipe-line market, and (2) Gray, Oklahoma, for the Chicago pipeline market. Deliveries to Amarillo Oil Company are made at the well for the City of Amarillo and Channing markets and at different points along Canadian River's pipeline system for Dalhart, Hartley and Texline, Texas, markets. Deliveries to Clayton Gas Company are made at the Clayton town-border * * * (Vol. 1, pp 65, 66.)

"The terms and conditions of the Colorado Interstate contract were negotiated and agreed upon in the first instance by representatives of Standard and Cities Service on behalf of Colorado Interstate, and representatives of Southwestern on behalf of Canadian River. The terms and conditions of the sales contracts with Amarillo Oil Company were negotiated and agreed upon by the parties with the advice, consent and approval of Colorado Interstate. The gas sales contract with Clayton Gas Company was originally entered into by Colorado Interstate and was negotiated by representatives of Southwestern on behalf of Clayton Gas Company, and representatives of Colorado Interstate on its own behalf." (Vol. 1, pp. 67, 68.)

Payne, representing the Standard, testified as to the long negotiations on behalf of his principal leading up to the memorandum of stipulations of April 5, 1927 (Exhibit 1) and then to the contract between Canadian and Colorado Interstate next described (Vol. IV, p. 510, et seq. Vol. CII, p. 15760, et seq.). This testimony has already been referred to supra.

Exhibit 16 herein is the original contract dated January 3, 1928, but actually signed June 5, 1928, between Canadian and Colorado Interstate, which was filed with the Commis-

sion prior to this hearing and on or about August 19, 1938, pursuant to General Order No. 53. In its letter to the Commission of that date transmitting not only this contract but contracts with Clayton Gas Company and the Amarillo Oil Company, Canadian made this reservation of right:

"It is understood that compliance with the above-mentioned order will not be construed as a waiver by the company of its rights to contest the jurisdiction of the Commission in any proceeding instituted under said act affecting such company." (Exhibit 16, p. 2.)

Parenthetically, a similar written reservation of right was made by Canadian in its response to General Order No. 51, and various subsequent orders, which responses were introduced herein as Exhibits 13 and 14.

In a later letter to the Commission dated December 15, 1939, transmitting supplemental agreements between Canadian and Amarillo Oil Company dated July 1, 1931, and June 1, 1938, respectively, Canadian made a further reservation with respect to its contracts with Amarillo by stating that such contracts were filed merely for information and that the Commission had no jurisdiction over them "since they did not involve the transportation and/or sale of natural gas in interstate commerce." (Exhibit 16, p. 1.)

This contract of January 3, 1928 (Exhibit 16), conformed to but amplified in detail the memorandum of stipulations agreed to on April 5, 1927, between the project parties (Exhibit 1) as to the sales under contract at "cost" by Canadian to Colorado Interstate. Its term was limited to twenty years from the date Colorado Interstate began to deliver gas to Public Service and so long thereafter as Canadian had the gas and Colorado Interstate could sell it profitably under the contract (Ex. 16, p. 34). This term conformed to the term in the memorandum agreement of April 5, 1927 (Exhibit 1, p. 8), which in turn conformed to the expiration date of Public Service's franchise in Denver (Ex. 24, p. 34).

Parenthetically it may be here stated that Colorado Interstate's contract with Public Service (Exhibit 7-I), and hereinafter abstracted under the heading "Gas Purchase and Sales Contracts of Colorado Interstate," is for twenty years

after deliveries of gas began, but it is further provided that Public Service is not obligated to take gas after February 8, 1947, the date of the expiration of its twenty year franchise, unless the people have voted them a new or extended franchise in the meantime.

This contract with Colorado Interstate (Exhibit 16) refers to Canadian as "Seller" and Colorado Interstate as "Buyer."

EXHIBIT NO. 16.

Canadian River Gas Company.

630 Fifth Avenue, New York, N. Y.

December 15, 1939.

Mr. Leon M. Fuquay, Secretary Federal Power Commission, Washington, D. C.

Dear Sir: In response to your request of December 9, 1939, I am enclosing herewith copies of agreements entered into between Canadian River Gas Company and Amarillo Oil Company under dates of July 1, 1931, and June 1, 1938, respectively, supplementing and amending in certain respects the original agreement between the same parties dated January 3, 1928, which is Exhibit B to Rate Schedule FPC No. 1 heretofore filed with the Commission by Canadian River Gas Company.

Copies of the above supplemental agreements are being furnished to you as a matter of information, and are not being filed in any sense as a rate schedule over which the Commission has any jurisdiction, since they do not involve the transportation and/or sale of natural gas in interstate commerce.

Yours very truly,

P. C. SPENCER, Vice President.

Southwestern Development Company
630 Fifth Avenue
New York, N. Y.

August 19, 1938.

Federal Power Commission, Washington, D. C.

Re: Order No. 53, Natural Gas Act.

Gentlemen: On behalf of Canadian River Gas Company I hand you herewith four copies of the following schedules of rates (including contracts pertaining thereto) and four copies of reports required in connection therewith pursuant to the Commission's Order No. 53 promulgated on July 5, 1938, under the terms and provisions of the Natural Gas Act:

(1) Contract Sales to Colorado Interstate Gas Company.

(2) Contract Sales to Clayton Gas Company.

It is understood that compliance with the above mentioned order will not be construed as a waiver by the Company of its rights to contest the jurisdiction of the Commission in any proceeding instituted under said Act affecting such company.

Please address all communications in connection with the above schedules to the undersigned:

Yours very truly,

P. C. SPENCER,
630 Fifth Avenue (Room 2757),
New York, N. Y.

Rate Schedule FPC No. 1.

Agreement Between Canadian River Gas Company
and Colorado Interstate Gas Company.

THIS AGREEMENT, made and entered into this Third day of January, 1928, by and between CANADIAN RIVER GAS COMPANY, a corporation organized and existing under the laws of the State of Delaware (hereinafter called "SELLER"),

party of the first part, and COLORADO INTERSTATE GAS COMPANY, likewise a corporation organized and existing under the laws of the State of Delaware (hereinafter called "Buyer"), party of the second part,

WITNESSETH: That the parties hereto, in consideration of the covenants and promises herein set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the other, the receipt of which is hereby acknowledged, have mutually covenanted and agreed and do hereby mutually covenant and agree as follows:

FIRST: Seller agrees to sell and deliver to Buyer and Buyer agrees to purchase and receive from Seller the natural gas required by Buyer to supply its customers in and near Denver, Pueblo and Colorado Springs, Colorado, and elsewhere along and near the pipe line which Buyer contemplates constructing from near Clayton, New Mexico, to Denver, Colorado, with branches to Pueblo, Colorado Springs, Concrete and Portland, Colorado, and, upon the election of Buyer, the natural gas required by Buyer to supply any other customer of Buyer, but Seller shall not be required to deliver to Buyer any natural gas in excess of the quantity produced by operations conducted as provided in Articles Third and Fourth hereof and/or purchased remaining after Seller has delivered to the Amarillo Oil Company the amount required to be currently delivered under its two contracts with that Company bearing the same date as this contract, copies of which are annexed hereto and marked Exhibits "B" and "C", and after Seller has delivered to or for the account of the United States the amount required to be currently delivered under its contract with the United States dated January 3rd, 1928, copy of which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B"

SECOND: The natural gas hereby sold shall be delivered by Seller and received by Buyer at the junction near Clayton, Union County, New Mexico, between the pipe line to be constructed by Seller and Buyer as hereinafter provided; such junction point is hereinafter referred as "CLAYTON JUNCTION"

THIRD: Seller agrees that all lands, gas leaseholds, gas rights, gas contracts and gas properties described in the schedule which is Exhibit "A" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", and all similar properties hereafter acquired by Seller will be diligently operated in a skilful and methodical way to accomplish the production of sufficient natural gas for delivery hereunder and under Seller's contracts with the Amarillo Oil Company, Exhibits "B" and "C" and under Seller's contract with the United States which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", and under any contracts Seller may make for delivery to other consumers located in that part of Texas north of the line hereinafter in this Article described. If at any time and from time to time The Equitable Trust Company of New York, Trustee under a certain Indenture of Mortgage dated June 1st, 1928, given by Seller to such Trustee, is of the opinion that Seller's operations for the production of natural gas and/or Seller's purchases of natural gas from other producers are not sufficient to enable Seller to deliver all the natural gas it is required to deliver hereunder and under its contracts with the Amarillo Oil Company (Exhibits "B" and "C"), and under its contract with the United States which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", and under any other contracts Seller may make for delivery to other consumers and for the protection and payment of the bonds for which said Trust Company, is Trustee, together with the Sinking Fund provided for in said mortgage and the interest on all outstanding bonds, and shall demand that Seller shall drill such wells and make such improvements and conduct such operations and make such purchases of natural gas as may be specified in such demands as being necessary or desirable to enable Seller to deliver natural gas as required in said contracts, and funds out of the proceeds of Seller's said mortgage to The Equitable Trust Company of New York, Trustee, are not available to pay the costs thereof, then Buyer shall loan to Seller any amounts in the

opinion of said Trustee necessary to pay such costs, and if funds out of the proceeds of said mortgage are not available to pay Seller's cost of perpetuating, renewing, extending or purchasing additional gas leaseholds, gas rights, gas contracts and/or gas estates, as provided in Article Fourth hereof, the perpetuation, renewing, extending or purchasing of which shall have been first approved by Buyer, then Buyer shall loan to Seller any amounts necessary to pay such costs. All amounts so loaned by Seller to Buyer during the first ten (10) years after the beginning of the calendar month, in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, except such part of the amounts loaned as may be used by Seller in drilling wells for natural gas which do not result in procuring natural gas in commercial quantities, are to be repaid by Buyer to Seller in one hundred twenty (120) equal monthly installments, and Seller shall pay semi-annually on the first day of January and the first day of July in each year interest at six percent (6%) per annum on any unpaid balances. Such part of the amounts so loaned by Buyer to Seller as may be used by Seller in drilling wells for natural gas which do not result in procuring natural gas in commercial quantities and all amounts so loaned by Seller to Buyer after the first ten (10) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, are to be repaid by Buyer to Seller within one (1) year from the day such loan is made, and Seller shall pay interest at six percent (6%) per annum. Seller shall not make any contract that may impair its capacity to produce natural gas for delivery to Buyer, provided, however, that all deliveries under and pursuant to Seller's contract with the Amarillo Oil Company, Exhibit "B", shall have preference over deliveries to Buyer hereunder, and the deliveries under and pursuant to Seller's contract with the Amarillo Oil Company, Exhibit "C", to the extent that such deliveries are of natural gas to be supplied to domestic consumers, shall have preference over deliveries to Buyer hereunder. Seller shall also have the right to deliver natural gas to or for the account of the United

States in accordance with its contract with the United States which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", and all deliveries thereunder shall have preference over deliveries to Buyer hereunder. Seller shall also have the right to make any additional sales to the Amarillo Oil Company for resale by it to the West Texas Gas Company or others to supply additional consumers located in Texas north of a line drawn from the point where the boundary line between the eastern side of that part of Texas known as the Texas Panhandle and the western side of Oklahoma intersects the Red River, which point is near the center of the easterly boundary line of Childress County, Texas, to a point formed by the intersection of the boundary line between the western side of that part of Texas known as the Texas Panhandle and the eastern side of New Mexico with the boundary line between the northern side of Texas and the southern side of New Mexico, which point is at or near the northwest corner of Winkler County, Texas, not now supplied directly by it or through the Panhandle Pipe Line Company or the Amarillo Gas Company. Any such sales to or for consumers located in Amarillo, Texas and its environs shall have preference over deliveries to Buyer hereunder and any such sales to or for domestic use in the territory described shall also have preference over deliveries to Buyer hereunder. Subject only to the foregoing reservations, the requirements of Buyer for natural gas shall have first preference and call at all times during the continuance of this contract on all the natural gas contained in or to be produced from Seller's lands, gas leaseholds, gas rights, gas reserves and gas wells, presently held or hereafter acquired in the nature of covenants running with the lands in all hands, and on all the natural gas purchased by Seller from other producers.

FOURTH: Seller agrees that it will use its best efforts to renew or extend the gas leaseholds, gas rights, gas contracts and gas estates described in the schedule which is Exhibit "A" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B" and sim-

ilar properties hereafter acquired by Seller, and to prevent lapse, forfeiture or expiration. Buyer shall have the right to renounce its right to receive natural gas from any of the gas leaseholds, gas rights, gas contracts or gas estates described in said schedule which is Exhibit "A" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B".

FIFTH: The natural gas delivered by Seller to Buyer hereunder shall be natural gas as produced in its natural state from the wells, except that Seller may extract or permit the extraction of natural gasoline from its natural gas and may extract or permit the extraction of any helium content of the natural gas, but Seller shall not subject its natural gas nor permit its natural gas to be subjected to any treatment in the extraction of natural gas gasoline or otherwise which shall change the chemical composition of any of its component parts or which will dilute it. The natural gas delivered by Seller to Buyer shall be only natural gas which is commercial in quality and condition, and should any of the natural gas produced by Seller or any of the natural gas purchased by Seller from other producers contain sulphur in quantities which render it unsatisfactory for domestic use or unfit for commercial or industrial use, Seller shall cleanse such natural gas or cause it to be cleansed of its sulphur content before delivering it to Buyer. If the natural gas supplied by Seller to Buyer contains a gross heating value of less than eight hundred (800) B. t. u.'s per cubic foot, Buyer, on giving ten (10) days' written notice to Seller, shall have the right to suspend taking natural gas hereunder until such time as Seller is prepared to supply Buyer with natural gas containing a gross heating value of not less than eight hundred (800) B. t. u.'s per cubic foot.

SIXTH: Seller agrees to construct, maintain and operate in a skilful and methodical manner to accomplish the delivery of natural gas as herein provided, a main pipe line not less than twenty-two (22) inches outside diameter of pipe, extending from such location as may be selected by it in Moore County near the intersection of the Moore-

Potter County line and the Highway between Amarillo and Delhart, Texas, which location is hereinafter referred to as the "AMARILLO COMPRESSING STATION SITE," a distance of about eighty-four (84) miles to a point near Clayton, Union County, New Mexico, and to construct, maintain and operate in a skilful and methodical manner a system of field gathering pipe lines to connect all its natural gas producing wells and all places at which it receives natural gas from other producers with Seller's main pipe line at the Amarillo Compressing Station site in order that natural gas produced by Seller and purchased from other producers may be delivered into Seller's main pipe line. Seller shall not be required to construct gathering lines to deliver natural gas produced from wells located on the Cliffside Structure described in the contract between Seller and the United States dated January 3rd, 1928, copy of which is Exhibit "C" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B."

SEVENTH: Seller agrees to construct and put into operation at said Amarillo Compressing Station site, within six (6) months after notice from Buyer, and to thereafter maintain and operate in a skilful and methodical manner a main compressing station of such horsepower and gas compressing capacity as may be required by Seller's natural gas market in order to deliver natural gas at the Clayton Junction at the maximum pressure in Seller's main pipe line resulting from the discharge pressure of three hundred twenty-five (325) pounds gauge per square inch at said compressing station. Seller also agrees that it will from time to time and within six (6) months after receiving notice from Buyer so to do construct and put into operation and thereafter operate in a skilful and methodical manner such additional machinery at said Amarillo Compressing Station site and such additional compressing stations on its natural gas gathering pipe line system and supplemental to the Amarillo Compressing Station as Buyer may require. If, at the time Buyer gives Seller notice to install additional machinery at said Amarillo Compressing Station site and/or additional compressing stations on its natural gas gathering pipe line system and supplemental

to its Amarillo Compressing Station, funds out of the proceeds of Seller's mortgage to The Equitable Trust Company of New York, Trustee, are not available to pay the cost thereof, then Buyer shall loan to Seller any amounts necessary to pay such costs. The amount of each such loan made before ten (10) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado is to be repaid by Seller to Buyer in one hundred twenty (120) equal monthly installments, and the amount of each such loan made after such ten (10) years is to be repaid by Seller to Buyer in such number of equal monthly installments as there may be remaining full months before twenty (20) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, and Seller shall pay semi-annually on the first day of January and the first day of July in each year interest at six percent (6%) per annum on any unpaid balances of all loans.

EIGHTH: Buyer agrees to construct and put into operation a pipe line not less than twenty (20) inches outside diameter of pipe, extending from the site outside the city line of Denver, Colorado, near where the Colorado Boulevard crosses Cherry Creek, which site Buyer agrees to select and purchase for a measuring station and junction with the city pipe line system of the Public Service Company of Colorado, and thence a distance of about two hundred sixty-six (266) miles to the Clayton Junction, and there connecting with Seller's pipe line. Buyer also agrees to construct and put into operation branch lines of adequate diameter to supply Colorado Springs and Pueblo, Colorado, and any other customers secured by Buyer located along and near Buyer's main pipe line at Concrete and Portland, Colorado, and such other customers as Buyer may elect to supply with natural gas purchased from Seller.

NINTH: Prior to the time when Seller is required to commence operating its Amarillo Compressing Station, Seller agrees to deliver said natural gas into Buyer's pipe line as aforesaid at such pressure as will result from delivering

said natural gas into Seller's twenty-two (22) inch pipe line at the Amarillo Compressing Station site at the highest pressure which its wells and the wells of those from whom it buys natural gas will make such deliveries, or at such lower pressure as may be specified from time to time by Buyer. After the time when Seller is required to commence operating its Amarillo Compressing Station, Seller agrees to deliver said natural gas into Buyer's pipe line as aforesaid at such pressure as will result from delivering said natural gas into Seller's twenty-two (22) inch pipe line at the discharge side of Seller's Amarillo Compressing Station at a discharge pressure of three hundred twenty-five (325) pounds gauge per square inch or at such low pressure as may be specified from time to time by Buyer.

TENTH: For each one thousand (1,000) cubic feet of natural gas delivered during each three (3) months of the period commencing when Seller begins making deliveries of natural gas hereunder and continuing until the beginning of the three (3) months' period in which Seller commences making deliveries of natural gas to the Amarillo Oil Company at a central point at the Amarillo Compressing Station Site, pursuant to the provisions of the contracts between Seller and the Amarillo Oil Company (Exhibits "B" and "C"), Buyer agrees to pay Seller a price which shall be determined by adding:

- (1) Seller's entire cost, including natural gas used for fuel and charged at the average price being paid by Seller for natural gas purchased from other producers, or, if Seller is not purchasing natural gas from other producers, then at the fair market value thereof at the mouth of the well in the field, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas which do not result in procuring natural gas in commercial quantities, provided, however, there shall not be included herein any item of cost incurred after ten (10) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado.

(2) Such amount as may be necessary during the year ending with the day preceding the beginning of such three (3) months' period to amortize on a ten (10) year basis Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the first ten (10) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, of drilling wells for natural gas which result in procuring natural gas in commercial quantities.

(3) Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas irrespective of whether such wells result in procuring natural gas in commercial quantities; provided, however, that no amounts shall be included pursuant to this sub-paragraph (3) in determining the price for any period prior to ten (10) years after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased from seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado.

(4) Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of producing natural gas, maintaining producing equipment, operating wells, all rentals paid by Seller in carrying its gas leaseholds, gas rights and gas estates; all royalties on gas wells and gas production; the purchase price paid by Seller to producers or vendors thereof for natural gas, other than that used for fuel, purchased; all expense, other than the purchase price, of procuring natural gas purchased by Seller from other producers; all costs of the foregoing operations and maintenance not otherwise herein enu-

merated, and two-thirds (2/3rds) of all unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation, preservation and maintenance of its gas leaseholds, gas rights, gas contracts and gas estates described in the schedule which is Exhibit "A" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B" or hereafter acquired, and to the operation and maintenance of its gas wells, and producing equipment; provided, however, there shall not be included herein any charge of any kind or character which Seller can avoid with respect to gas leaseholds, gas rights or gas estates from which Buyer has renounced its right to have natural gas delivered to it hereunder; and, provided further, there shall not be included herein any item elsewhere included in the provisions of this Article Tenth; and, provided further, there shall not be included herein any item the amortization of which is included in subparagraph (2) of this Article Tenth.

(5) Such amount as may be necessary, during the year ending with the day preceding the beginning of such three (3) months' period, to amortize on a ten (10) year basis Seller's entire cost of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas; provided, however, that only Seller's cost, during the ten (10) years beginning with the first day of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, shall be included in the amount to be so amortized.

(6) Seller's entire cost, during the year ending with the day preceding the beginning of the three (3) months' period commencing ten (10) years after the first day of the calendar month in which Buyer begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado and during the year end-

ing with the day preceding the beginning of each three (3) months' period thereafter, of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas.

(7) All Seller's cost for the year ending with the day preceding the beginning of such three (3) months' period of performing its obligations under its contracts with the Amarillo Oil Company, copies of which are annexed hereto and marked Exhibits "B" and "C", excluding, however, any costs elsewhere included in this Article Tenth.

(8) One-half ($\frac{1}{2}$) of all amounts which Seller required to pay during the year ending with the day preceding the beginning of such three (3) months' period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust dated June 1st, 1928, given by Seller to said Trustee.

(9) All amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest on account of loans made to it pursuant to the operation of Article Third hereof and all amounts which Seller is required to pay during such year on account of the principal of loans made to it pursuant to the operation of Article Third hereof, except such amounts of said principal as have been expended by Seller for any of the operations described in sub-paragraphs (1) to (6), inclusive of this Article Tenth, which amounts are charged into Seller's cost of producing natural gas.

(10) All amounts which Seller is required to pay, during the year ending with the day preceding the beginning of such three (3) months' period, for interest and on account of the principal of loans made to it by the Colorado Interstate Gas Company, provided, however, there shall not be included under this sub-paragraph (10) any amount Seller is required to pay for interest or on account of the principal of loans made to it pursuant to the operation of Articles Third or Seventh of this agreement.

(11) All of Seller's cost during the year ending with

the day preceding the beginning of such three (3) months' period of maintaining meters and other equipment, facilities and installations for measuring natural gas, and of measuring natural gas.

(12) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period, because of the ownership or operation by Seller of its natural gas wells, drilling equipment and other facilities and property used or useful by Seller in the performance of its obligations under this contract, its obligations under its two contracts with the Amarillo Oil Company, copies of which are annexed hereto and marked Exhibits "B" and "C", and under its contract with the United States which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", and gas leaseholds, gas rights and gas estates owned by Seller; provided, however, there shall not be included in this item any taxes which are included in the provisions of sub-paragraph (15) of this Article Tenth.

and by dividing the total thus ascertained by a divisor which shall be the sum of all the thousands of cubic feet of natural gas delivered by Seller to all purchasers during the year ending with the day preceding the beginning of such three (3) months' period, and by adding to the amount thus ascertained an amount determined by adding:

(13). All of Seller's cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for gathering, compressing, transporting and delivering natural gas as herein provided, such cost to include all expenses not enumerated which are properly chargeable to the maintenance and operation of such gathering pipe lines, supplemental com-

pressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for gathering, compressing, transporting and delivering natural gas as herein provided, and one-third (1/3rd) of all of Seller's unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation and maintenance of Seller's main compressing stations; provided, however, there shall not be included herein any item which has been included in sub-paragraphs (1) to (10) inclusive of this Article Tenth:

(14) One-half (1/2) of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee.

(15) All amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article Seventh hereof.

(16) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period, because of the ownership or operation by Seller of its gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment facilities and installations maintained by Seller and used or useful for the purpose of gathering, compressing, transporting and delivering natural gas hereunder.

and by dividing the total thus ascertained by a divisor which shall be the sum of all the thousands of cubic feet of natural gas sold and delivered by Seller to Buyer hereunder during the year ending with the day preceding the beginning of such three (3) months' period.

For each one thousand (1,000) cubic feet of natural gas

delivered during each three (3) months of the period commencing with the three (3) months' period in which Seller begins making deliveries of natural gas to the Amarillo Oil Company at a central point at the Amarillo Compressing Station site under and pursuant to the provisions of either of Seller's two contracts with the Amarillo Oil Company, copies of which are annexed hereto and marked Exhibits "B" and "C", and continuing until the beginning of the three (3) months' period in which Seller commences making deliveries of natural gas to the Amarillo Oil Company after compression at the Amarillo Compressing Station Buyer agrees to pay Seller a price which shall be determined by adding:

(1a) The amounts for the year ending with the day preceding the beginning of such three (3) months' period described in sub-paragraphs (1) to (12) inclusive of this Article Tenth as though said sub-paragraphs were here set forth in full.

(2a) All of Seller's cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering and transporting natural gas to its Amarillo Compressing Station site, such cost to include all expenses not enumerated which are properly chargeable to the maintenance and operation of such gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering and transporting natural gas to its Amarillo Compressing Station site; provided, however, there shall not be included herein any item which has been included in sub-paragraph (1a) of this Article Tenth.

(3a) That proportion of one-half (1/2) of all the amounts which Seller is required to pay during the year ending with the day preceding the beginning of

such three (3) months' period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee, that Seller's capital investment in gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful for gathering natural gas and transporting it to its Amarillo Compressing Station site bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(4a) That proportion of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article Seventh hereof that Seller's capital investment in gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful in gathering natural gas and transporting it to its Amarillo Compressing station site bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities, and installations used or useful in gathering compressing, transporting and delivering natural gas sold by it.

(5a) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period because of the ownership or operation by Seller of its gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful for gathering natural gas and transporting it to the Amarillo Compressing Station site.

and by dividing the total thus ascertained by a divisor

which shall be the sum of all the thousands of cubic feet of natural gas delivered by Seller to all purchasers during the year ending with the day preceding the beginning of such three (3) months' period, and by adding to the amount thus ascertained an amount determined by adding:

(6a) All of Seller's cost, including natural gas used for fuel and charged at the price provided in subparagraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating main compressing stations, main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for compressing, transporting after compression and delivering natural gas as herein provided, such cost to include all expenses not enumerated which are properly chargeable to the maintenance and operation of such main compressing stations, main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for compressing, transporting after compressing, and delivering natural gas as herein provided, and one-third ($1/3$) of all of Seller's unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation and maintenance of Seller's main compressing stations; provided, however, there shall not be included herein any item which has been included in subparagraphs (1a) and (2a) hereof.

(7a) That proportion of one-half ($1/2$) of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to such Trustee, that Seller's capital investment in main compressing stations, main pipe lines and other equipment, facilities and installations used or useful for compressing and transporting after compression natural gas for delivery hereunder bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main com-

pressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(8a) That proportion of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article Seventh, hereof that Seller's capital investment in main compressing stations, main pipe lines and other equipment, facilities and installations used or useful for compressing and transporting after compression natural gas for delivery hereunder bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(9a) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period, because of the ownership of operation by Seller of its main compressing stations, main pipe lines and other equipment, facilities and installations used or useful for the purpose of compressing and transporting after compression natural gas delivered hereunder.

and by dividing the total of the items described in the aforesaid sub-paragraphs (6a) to (9a) inclusive by a divisor which shall be the sum of all the thousands of cubic feet of natural gas sold and delivered by Seller to Buyer during the year ending with the day preceding the beginning of such three (3) months' period.

For each one thousand (1,000) cubic feet of natural gas delivered during each three (3) months of the period commencing with the three (3) months' period in which Seller begins making deliveries of natural gas to the Amarillo Oil Company from Seller's Amarillo Compressing Station after

compression, under and pursuant to the provisions of either of Seller's two contracts with the Amarillo Oil Company, copies of which are annexed hereto and marked Exhibits "B" and "C", and continuing thereafter for so long as this contract continues in force, Buyer agrees to pay Seller a price which shall be determined by adding:

(1b) The amounts for the year ending with the day preceding the beginning of such three (3) months' period described in sub-paragraphs (1) to (12) inclusive of this Article Tenth as though said sub-paragraphs were here set forth in full.

(2b) All of Seller's cost, including natural gas used for fuel and charged at the price provided for in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering and transporting natural gas to its Amarillo Compressing Station and there compressing such natural gas, such cost to include all expenses not enumerated which are properly chargeable to the operation and maintenance of such gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it, and one-third (1/3) of all of Seller's unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation and maintenance of Seller's main compressing stations; provided, however, there shall not be included herein any item which has been included in sub-paragraph (1b) of this Article Tenth.

(3b) That proportion of one-half (1/2) of all the amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period to The Equitable Trust

Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee, that Seller's capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it, bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(4b) That proportion of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article Seventh hereof that Seller's capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations used or useful in gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it, bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful for gathering, compressing, transporting and delivering natural gas sold by it.

(5b) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period because of the ownership or operation by Seller of its gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it.

and by dividing the total thus ascertained by a divisor which shall be the sum of all the thousands of cubic feet of natural gas delivered by Seller to all purchasers during the year ending with the day preceding the beginning of such three (3) months' period, and by adding to the amount thus ascertained an amount determined by adding:

(6b) All of Seller's cost, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for transporting after compression natural gas for delivery hereunder, such cost to include all expenses not enumerated which are properly chargeable to the operation of such main pipe lines and other equipment, facilities and installations maintained by Seller and used or useful for transporting after compression natural gas as herein provided; provided, however, there shall not be included herein any item which has been included in sub-paragraphs (1b) and (2b) hereof.

(7b) That proportion of one-half (1/2) of all amounts which Seller is required to pay, during the year ending with the day preceding the beginning of such three (3) months' period, to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to such Trustee, that Seller's capital investment in main pipe lines and other equipment, facilities and installations used or useful for transporting after compression natural gas for delivery hereunder bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(8b) That proportion of all amounts which Seller is required to pay, during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article

Seventh hereof that Seller's capital investment in main pipe lines and other equipment facilities and installations used or useful for transporting after compression natural gas for delivery hereunder bears to Seller's entire capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(9b) All taxes, except taxes on net income or net profits payable during the year ending with the day preceding the beginning of such three (3) months' period, because of the ownership or operation by Seller of its main pipe lines and other equipment facilities and installations used or useful for the purpose of transporting after compression natural gas delivered hereunder.

and by dividing the total of the items described in the aforesaid sub-paragraphs (6b) to (9b) inclusive by a divisor which shall be the sum of all the thousands of cubic feet of natural gas sold and delivered by Seller to Buyer during the year ending with the day preceding the beginning of such three (3) months' period.

ELEVENTH: Seller shall furnish, install, operate and maintain at its own expense a regulating and metering station properly equipped with orifice meters and recording gauges or other type of meter or meters of standard make, as may be mutually agreed, at or near the discharge side of Seller's Amarillo Compressing Station; or, before such station is constructed and in operation, at or near Seller's Amarillo Compressing Station site, and the amount of natural gas passing through said meters, less any amount thereafter delivered by Seller to purchasers other than Buyer, shall be the amount of natural gas to be paid for by Buyer.

The measuring equipment so installed by Seller, together with any buildings erected by it for such equipment, shall be and remain its property. Buyer shall have access to said metering equipment at all reasonable times but the reading, calibrating and adjusting thereof and changing of charts shall be done only by the employees or agents of

Seller. Charts and records from such metering equipment shall remain the property of Seller. Upon request of Buyer, Seller will submit to Buyer records and charts from its metering equipment, subject to return by Buyer, within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file by Seller for the mutual use of both parties. At least twice each month, and on dates as near the first and sixteenth of the month as practicable, Seller shall calibrate its meter in the presence of representatives of Buyer and the parties shall jointly observe any adjustments which are made in the meter should such adjustments be necessary, and if the check meters hereinafter provided for have been installed, the same shall also be calibrated by Buyer in the presence of representatives of Seller and any adjustments jointly observed should such adjustments be necessary. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party and the parties will then co-operate to secure an immediate calibration test and joint observation of any adjustments and the meter shall then be adjusted to accuracy and corrections jointly made for the monthly settlements. Each company shall give to the other company notice of the time of all tests of meters sufficiently in advance of the holding of the tests so that the other company may conveniently have its representatives present. If upon any test any metering equipment is found to be inaccurate by one per cent. (1%) or more, registrations thereof shall be corrected at the rate of such inaccuracy for any period which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon, then for a period extending back one-half (1/2) of the time elapsed since the last date of calibration, not exceeding, however, eight (8) days. Following any test, metering equipment found inaccurate shall immediately be restored as closely as possible to a condition of accuracy. If for any reason meters are out of service and/or out of repair so that the amount of natural gas delivered cannot be ascertained or computed from the reading thereof, the natural gas delivered through the period

such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available, using the first of the following methods which is feasible:

(a) By correcting the error if the percentage of error is ascertainable by calibration, test or mathematical calculation.

(b) By using the registration of any check meter or meters if installed and accurately registering.

(c) By estimating the quantity of delivery by deliveries during the preceding periods under similar conditions when the meter was registering accurately.

The unit of measurement for the natural gas deliverable under this agreement shall be one thousand (1,000) cubic feet of natural gas at a base temperature of sixty (60) degrees Fahrenheit and at a base pressure of two (2) pounds gauge pressure above fourteen and four-tenths (14.4) pounds absolute atmospheric pressure and the readings and registrations of the metering equipment herein provided for shall be computed into such units. For the purpose of measurement, the natural gas deliverable hereunder shall be assumed to obey Boyle's Law and the average absolute atmospheric (barometric) pressure shall be assumed to be fourteen and four tenths (14.4) pounds to the square inch, irrespective of the actual elevation or location of the delivery point above sea level or of variations in such barometric pressure from time to time. If meters other than the orifice type are used, then in computing the readings and registrations of such metering equipment into the units above specified, the physical characteristics of the natural gas which affect such computations shall be given each their due consideration and the determination of such physical characteristics shall be made by standard apparatus and methods and at such time and places as, in accordance with good practice, may be agreed upon from time to time between the delivering company and the receiving company. For meters of the orifice type, the following factors shall be given due consideration, viz:

(a) The temperature of the natural gas flowing

through the meter shall be obtained by the use of a recording thermometer so installed that it may properly record the temperature of the natural gas flowing through the meter. The average temperature recorded each day shall be used in computing measurements.

(b) The specific gravity of the natural gas shall be determined twice monthly by joint test on days as near the first and sixteenth of the month as practicable or as much oftener as is found necessary in practice. The method of test used shall be by Edward's Balance or by such other method as shall be agreed upon by the parties. The regular test at the first of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries during the first fifteen (15) days of such calendar to be applicable from the day made and through the month or until changed by special test, the special test following days to and including the fifteenth day of such calendar month. The regular test made on the sixteenth of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries in that part of such calendar month commencing with the sixteenth day and continuing until the end thereof or until changed by special test, the special test to be applicable from the day made through the remaining days in such calendar month.

Buyer may at its option and at its cost and expense install and operate check metering equipment, but the metering equipment of Seller shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by Buyer, together with any buildings erected by it for such equipment, shall be and remain its property. Whenever the point of delivery, as specified herein, is on the premises of Seller, Seller grants to Buyer the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and/or removal. The check metering equipment and the method of installation of the same shall be of such standard type for the measurement of natural gas as is approved by both companies, but Buy-

er shall have the right to replace such equipment at any time with metering equipment of equal grade subject to the approval of Seller as to type and method of installation. In the event check metering equipment is installed by Buyer, Seller shall have access to the same at all reasonable times, but the reading calibrating and adjusting thereof and the changing of charts shall be done only by employees or agents of Buyer. Charts and records from said check metering equipment shall remain the property of Buyer. Upon request of Seller, Buyer will submit to Seller records and charts from said metering equipment, together with calculations, therefrom for Seller's inspection and verification, subject to return by Seller within ten (10) days after receipt thereof.

TWELFTH: Seller shall render to Buyer on or before the fifteenth (15th) day of each month a statement showing:

- (a) The amount of natural gas delivered to Buyer during the calendar month immediately preceding, and the amounts of payment or payments computed in the manner provided in Article Tenth hereof then due from Buyer to Seller therefor; provided, however, that payments for natural gas delivered during the period commencing when Seller begins making deliveries of natural gas hereunder and continuing until one (1) year after the beginning of the calendar month in which Buyer begins making deliveries of natural gas purchased hereunder to the Public Service Company of Colorado or to the Colorado Fuel & Iron Company, shall be included in said statement at the assumed cost of eight and sixty-five hundredths cents (8.65c) per one thousand (1,000) cubic feet, and within thirty (30) days after the expiration of such period, Seller shall compute its cost in the manner provided in sub-paragraphs (1) to (16) inclusive of Article Tenth hereof, except if, during this period, the amount of natural gas delivered by Seller to Buyer shall be less than twice the amount of natural gas delivered by Seller to the Amarillo Oil Company under Seller's two contracts with that Company, Exhibits "B" and "C", then no

amount for interest or Sinking Fund shall be included under sub-paragraph (9) of Article Tenth hereof, and when such cost shall have been determined, it shall be the amount to be paid by Buyer to Seller for each one thousand (1,000) cubic feet of natural gas delivered during such first year, and if during the period the amount of natural gas delivered by Seller to Buyer has been less than twice the amount of natural gas delivered by Seller to the Amarillo Oil Company under Seller's two contracts with that Company, Exhibits "B" and "C", then the total amount to be paid by Buyer to Seller shall be increased by two-sixths ($2/6$ th) of all the amounts for interest and Sinking Fund which Seller is required to pay during such period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee. When the foregoing computation has been made, there shall be made a proper adjustment of payments already made.

(b) The amount by which Seller's cost of operations during the preceding month, including amounts necessarily paid for interest and on account of principal of loans made to it pursuant to the operation of Articles Third and Seventh hereof, which amounts are not included in the cost of operations, and including amounts necessarily paid to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee, shall have exceeded Seller's receipts from all sources during the preceding month.

(c) All amounts received by Seller during the preceding month from the United States under and pursuant to the contract between Seller and the United States dated January 3rd, 1928, which is Exhibit "B" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is annexed hereto and marked Exhibit "B", in excess of the amounts which Seller is required to pay the Amarillo Oil Company under and pursuant to the provi-

sions of Article IV of Seller's contract with the Amarillo Oil Company, copy of which is hereto annexed and marked Exhibit "B".

(d) All amounts by which Seller's receipts during the preceding month from sales of gasoline and helium extracted from natural gas exceed Seller's cost during such month of maintaining and operating plants and facilities for the extraction of natural gas gasoline and/or helium. Seller agrees to sell all natural gas gasoline and helium extracted at the highest price obtainable therefor under the usual trade practices.

(e) All amounts by which the amounts due from the Amarillo Oil Company to Seller for natural gas sold during the preceding month under and pursuant to the contract between Seller and the Amarillo Oil Company, copy of which is annexed hereto and marked Exhibit "C", exceed Seller's cost of producing, transporting, compressing and delivering such natural gas, computed in the manner described in Seller's contract with the Amarillo Oil Company, copy of which is hereto annexed and marked Exhibit "B".

(f) The amount by which the amounts due for natural gas sold during the preceding months other than under the contracts herein mentioned exceed Seller's cost of producing, transporting, compressing and delivering such natural gas computed in the manner described in Seller's contract with the Amarillo Oil Company, copy of which is hereto annexed and marked Exhibit "B".

(g) All net amounts received by Seller during the preceding month from any source whatsoever, excepting only amounts received by Seller or due to it under and by virtue of this agreement and amounts included in sub-paragraphs (c) (d) (e) (f) and (h) of this Article Twelfth.

(h) The amount by which Seller's receipts during the preceding calendar month from all sources shall have exceeded Seller's costs of operations during the preceding month, including amounts necessarily paid for interest and on account of principal of loans made

to it pursuant to the operations of Articles Third and Seventh hereof, which amounts, are not included in the cost of operations, and including amounts necessarily paid to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the First Mortgage and Deed of Trust given by Seller to said Trustee?

Buyer agrees to pay to Seller at its office at Amarillo, Texas, on or before the twenty-fifth (25th) day of the month, the amount by which the sum of the items mentioned in sub-paragraph (a) and (b) of this Article Twelfth shall exceed the sum of the items mentioned in sub-paragraphs (c) to (h) inclusive of this Article Twelfth. If at any time the sum of the items mentioned in sub-paragraphs (c) to (h) inclusive of this Article Twelfth shall exceed the sum of the items mentioned in sub-paragraphs (a) and (b) of this Article Twelfth, then the amount of such excess shall be carried forward and credited against the amounts due from Buyer in any subsequent month or months. Payments by Buyer in accordance with the provisions of this Article Twelfth shall be full payment for all natural gas sold and delivered by Seller to Buyer during the period covered by the statement.

THIRTEENTH: Seller agrees to keep proper books, records and accounts according to approved methods, so as to reflect accurately, and in detail monthly and annually its investments, income, expenses and profits and in particular its cost of producing and obtaining natural gas, the sources and costs of any natural gas purchased from other producers, the cost compressing and transporting natural gas and its sale of natural gas with names of purchasers and prices received, together with any other sources of revenue in detail, and to procure from all those to whom it sells natural gas as and when required by Buyer statements in detail of such purchasers' sales of natural gas to its customers; copies of contracts and records of sales and any other data that may be material in the proper administration of this contract and shall furnish Buyer monthly on or before the last day of each month a copy of its financial statement showing the above items and accounts for the preceding

month and copies of all the statements, contracts, records of sales and other data material in the proper administration of this contract which Buyer has requested Seller to procure from its customers. Buyer shall have the right at all reasonable times to go upon the property of Seller and to make such inspection and investigation of same as it may desire and to examine and audit Seller's books, accounts, contracts, meters and records.

FOURTEENTH: If at any time and from time to time during the term hereof Seller shall be unable or fail to deliver the full amount of natural gas required by Buyer hereunder, then Buyer shall have the right, during such time as Seller so fails to furnish the required amount of natural gas, to purchase or otherwise obtain natural gas from any available source or manufacture or permit its customers to manufacture gas to supply, at its own expense, such portion of the requirements of its customers as is not obtainable from Seller. If for any period during the term hereof Seller is unable or fails to deliver the full amount of natural gas required by Buyer hereunder, and Buyer shall manufacture or permit its customers to manufacture gas to supply the requirements of Buyer or its customers which would have been supplied with natural gas received hereunder had such supply been sufficient, the amount of natural gas to be sold and delivered hereunder by Seller and purchased and received by Buyer thereafter shall be at Buyer's option reduced by the amount of gas manufactured by Buyer or by Buyer's customers to supply Buyer or its customers during such period of shortage which would have been supplied with natural gas sold hereunder if such natural gas had been available.

FIFTEENTH: If any dispute arises between the parties to this contract which they are unable to settle, the same shall be submitted to arbitration. Within ten (10) days after the written request of either party for arbitration, Seller shall appoint one arbitrator and Buyer shall appoint one arbitrator, and the two so chosen, within ten (10) days after the appointment of the second of the two so chosen, shall select a third. In case either Seller or Buyer shall fail to name an arbitrator within ten (10) days after the written request of either party for arbitration, the arbitrator appointed by the other party shall be the sole arbitrator. The

three arbitrators may act by a majority and the arbitrator or arbitrators, as the case may be, shall forthwith hear the parties, after notice to Seller and Buyer, and shall make their award within ninety (90) days from the submission of the matter to them and said award shall be final and conclusive upon the parties.

SIXTEENTH: This contract shall continue for twenty (20) years from the day Buyer begins delivery of natural gas purchased from Seller to the Public Service Company of Colorado and so long thereafter as Seller has available for delivery to Buyer hereunder quantities of natural gas which Buyer determines are profitable for it to buy under the terms of this contract. Buyer agrees to use diligent effort to complete its pipe line to the extent necessary to be ready to take deliveries from Seller on or before the first day of August, 1928, and agrees to give Seller at least three (3) months' notice of the day it will begin taking natural gas. Seller agrees to use diligent effort to complete its pipe line to the point of connection with Buyer's pipe line at the Clayton Junction and its system of gathering pipe lines to its wells at the maturity of said notice, whereupon the purchase and sale of natural gas hereunder shall become effective.

SEVENTEENTH: In the event of either party being rendered unable wholly or in part by *force majeure* to carry out its obligations under this contract other than to make payments of amounts due hereunder, it is agreed that on such party giving notice and full particulars of such *force majeure* in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such *force majeure*, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "*force majeure*" as employed herein shall mean acts of God; strikes, lockouts, or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraint of rulers and peoples, civil disturbances, explosions, breakage

or accident to machinery or lines of pipe, the necessity for making repairs and/or alterations in machinery or lines of pipe, freezing of wells or lines of pipe, sudden partial or entire failure of natural gas wells, and any other cause, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

EIGHTEENTH: All notices to be given hereunder by Seller to Buyer shall be given by registered mail or by delivering the same to Buyer at its office at Colorado Springs, Colorado, or at such other office as may be hereafter designated by Buyer for the purpose, and all notices to be given by Buyer to Seller shall be given by registered mail or delivering the same to Seller at its office at Amarillo, Texas, or at such other office as may be hereafter designated by Seller for the purpose.

NINETEENTH: This agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. Whenever any corporation is referred to herein, such reference shall be deemed to include the successors and assigns of any such corporation.

TWENTIETH: In view of the possibility of natural gas being found along the pipe line of Buyer or within piping distance of the communities supplied directly or indirectly with natural gas by Buyer, it is agreed that it may be desirable for Buyer to arrange for purchase of such natural gas and the marketing thereof and Seller agrees to use its best efforts to cooperate with Buyer in the disposal of such natural gas. Upon the purchase of such natural gas by Buyer or upon the failure of Buyer to purchase or dispose of it or to participate in the purchase or disposal thereof, whereupon Buyer's customers purchase and take such natural gas instead of purchasing natural gas from Buyer, then to such extent Buyer shall be relieved from its obligation to purchase all of its requirements of natural gas from Seller hereunder.

TWENTY-FIRST: As between the parties hereto, Seller shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby until the same shall have passed the

point of connection between Seller's and Buyer's pipe lines at the Clayton Junction, after which Buyer shall be deemed to be in exclusive control and possession thereof and responsible for any such injury or damage.

TWENTY-SECOND: Seller agrees that it will do all things necessary to perform its two contracts with the Amarillo Oil Company, copies of which are annexed hereto and marked Exhibits "B" and "C" and its two contracts with the United States which are Exhibits "B" and "C" attached to the contract between the Seller and the Amarillo Oil Company, a copy of which said contract is attached hereto and marked Exhibit "B"; that it will take all steps necessary or proper to require the Amarillo Oil Company and the United States to perform such contracts; and Seller will not permit the cancellation of said contracts nor any modification thereof which will affect the volume of natural gas to be delivered hereunder or the price to be paid therefor without first obtaining the consent of Buyer thereto. Seller also agrees that it will not consent to the cancellation nor any modification which will affect the volume of natural gas delivered hereunder or the price to be paid therefor of the contracts between the Amarillo Oil Company and the Panhandle Pipe Line Company, the Amarillo Gas Company, and the United States Zinc Company, copies of which contracts are Exhibits "E", "F", and "G" attached to the contract between Seller and the Amarillo Oil Company, copy of which is annexed hereto and marked Exhibit "B", without first obtaining the consent of Buyer thereto.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be duly signed by its respective officers the day and year first above written.

CANADIAN RIVER GAS COMPANY

By W. S. FITZPATRICK

Attest:

President

VICTOR A. LORE

[SEAL]

Secretary.

COLORADO-INTERSTATE GAS COMPANY

By CHRISTY PAYNE

Attest:

President

E. E. DU VALL

[SEAL]

Secretary.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

Before me, CHAS. E. HILL, a notary public of New York County, New York, on this day personally appeared W. S. FITZPATRICK and VICTOR A. IOBE, President and Secretary, respectively, of CANADIAN RIVER GAS COMPANY, known to me to be the persons and officers whose names are subscribed to the foregoing instrument, and severally acknowledged to me that the same was the act of the said Canadian River Gas Company, a corporation, and that they executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacities therein stated.

GIVEN under my hand and seal of office, this the 5th day of June A. D. 1928.

CHARLES E. HILL

Notary Public, Kings Co. No. 580

Kings Co. Register's No. 9254

[SEAL]

Certificate Filed in New York County No. 731

New York County Register's No. 9495

Commission Expires March 30, 1929

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

Before me, CHAS. E. HILL, a notary public of New York County, New York, on this day personally appeared CHRISTY PAYNE and E. E. DU VALL, President and Secretary, respectively, of COLORADO INTERSTATE GAS COMPANY, known to me to be the persons and officers whose names are subscribed to the foregoing instrument, and severally acknowledged to me that the same was the act of the said Colorado Interstate Gas Company, a corporation, and that they executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacities therein stated.

GIVEN under my hand and seal of office, this the 5th day of June A. D. 1928.

CHARLES E. HILL

Notary Public, Kings Co. No. 580

Kings Co. Register's No. 9254

[SEAL]

Certificate Filed in New York County No. 731

New York County Register's No. 9495

Commission Expires March 30, 1929

Exhibit "B."

THIS AGREEMENT, Made and entered into this third day of January, A. D. 1928, by and between CANADIAN RIVER GAS COMPANY, a corporation organized and existing under the laws of the State of Delaware, party of the first part, hereinafter called SELLER, and the AMARILLO OIL COMPANY, a corporation organized and existing under the laws of the State of Texas, party of the second part, hereinafter called BUYER:

WITNESSETH: That the parties hereto, in consideration of the covenants and payments herein set forth, and of the sum of One Dollar (\$1.00) in hand paid by each to the other, receipt of which is hereby acknowledged, have mutually covenanted and agreed and do hereby mutually covenant and agree as follows:

1. Seller agrees to sell and deliver to Buyer and Buyer agrees to purchase and take from Seller and pay for:

(a) All the natural gas in excess of that purchased by Buyer from other producers required by Buyer for sale under and pursuant to the contract hereto annexed and marked Exhibit "E" to the Panhandle Pipe Line Company to supply the customers of the Panhandle Pipe Line Company in the City of Amarillo and its environs in the State of Texas:

(b) All the natural gas in excess of that purchased by Buyer from other producers required by Buyer for sale under and pursuant to the contract hereto annexed and marked Exhibit "F" to the United States Zinc Company to supply the United States Zinc Company's smelter located at Amarillo, Texas:

(c) All the natural gas in excess of that purchased by Buyer from other producers required by Buyer to supply any customers located in the City of Amarillo or its environs in the State of Texas which Buyer, Panhandle Pipe Line Company or the Amarillo Gas Company now has or may hereafter acquire.

Buyer shall at all times take and pay for hereunder from Seller or pay for that proportion of its total requirements for natural gas from all sources that the amounts of natural

gas taken by the Colorado Interstate Gas Company under and pursuant to its contract dated January 3rd, 1928, with Seller, from Seller's own wells, bears to the total amount of natural gas taken by the Colorado Interstate Gas Company under said contract, provided, however, Seller shall not at any time be required to deliver natural gas hereunder in excess of the amount which it has available for delivery as defined in Article III hereof. The part of its total requirements which Buyer shall take and pay for hereunder or pay for shall be determined each three (3) months by Seller and notice given to Buyer within fifteen (15) days after the end of each three (3) months' period, and the amount thus determined, reduced after the United States exercises its option to purchase the Cliffside Structure by that part of the natural gas taken during such three (3) months by Buyer from the discharge side of the helium plant under Article IV hereof which bears the same proportion to all the natural gas taken during such three (3) months from the discharge side of the helium plant that the amount of natural gas taken by the Colorado Interstate Gas Company from the wells of the Canadian River Gas Company bears to all the natural gas taken by the Colorado Interstate Gas Company from the Canadian River Gas Company, shall establish the minimum amount of natural gas to be taken by Buyer hereunder during the three (3) months beginning with the first day of the month following the notice. The minimum deliveries to be taken by Buyer shall be made and taken as nearly as practicable in equal daily amounts with an allowable daily variation of ten per cent. (10%) more or less than the amount currently applicable, but deliveries each six (6) months, May 1st to November 1st and November 1st to May 1st, shall be in exact accord with the current amount. Buyer agrees that it will do all things necessary to perform its contracts with the Panhandle Pipe Line Company and the United States Zinc Company, copies of which are hereto annexed and marked Exhibits "E" and "F" respectively; that it will take all steps necessary or proper to require the Panhandle Pipe Line Company and the United States Zinc Company to perform such contracts, and Buyer will not permit the cancellation of said contracts or any modification thereof which will affect Buyer's ability or obligation to take from Seller the proportion of its total requirements herein agreed upon without first obtaining the consent of Seller thereto.

II. The natural gas hereby sold shall be delivered by Seller and received by Buyer at the gate valves on Seller's wells and/or the pipe connection points at which Seller receives natural gas bought for delivery hereunder from other producers. Buyer agrees to maintain pipe lines connected to certain of Seller's wells which are now connected to Buyer's pipe line, and to furnish and install other pipe lines from time to time to such additional wells or to such pipe connection points at which Seller receives natural gas bought for delivery hereunder from other producers, as such new places of connection or gate valves of wells may be designated by Seller in order to deliver the volumes to meet Buyer's requirements. If and when requirements of Buyer make it necessary that, instead of taking its deliveries of natural gas hereunder from Seller at Seller's wells or at said pipe connection points, Buyer receive deliveries at a central point, the natural gas hereby sold shall be delivered by Seller and received by Buyer at Seller's Amarillo Compressing Station site located at such point as may be selected by Seller near the intersection of the Moore-Potter County line and the highway between Amarillo and Dalhart, Texas, from Seller's gathering pipe line system, and Buyer shall construct and maintain its pipe line or pipe lines to such compressing station site. If and when the requirements of Buyer make it necessary that Buyer receive the natural gas hereby sold at a higher pressure than that available from Seller's wells or at the pipe connection points at which Seller receives natural gas purchased from other producers or from Seller's gathering lines at the Amarillo Compressing Station site, then Seller will construct, put into operation and maintain at its Amarillo Compressing Station site compressing facilities sufficient to enable it to deliver natural gas hereunder at a discharge pressure sufficient to meet the requirements of Buyer but not exceeding three hundred and twenty-five (325) pounds gauge per square inch at said station and thereafter the natural gas hereby sold shall be delivered by Seller and received by Buyer from Seller's Amarillo Compressing Station and Buyer shall construct and maintain its pipe line or pipe lines to such compressing station.

III. Seller agrees that all lands, gas leaseholds, gas rights, gas contracts and gas properties described in the

schedule hereto annexed, made a part hereof and marked Exhibit "A," and all similar properties hereafter acquired and all its compressing facilities, pipe lines, wells, meters and connections will be diligently operated in a skilful and methodical way to accomplish the production of sufficient natural gas for delivery hereunder and for delivery to the United States under and pursuant to Seller's contract hereto annexed and marked Exhibit "B," and the delivery of natural gas so produced shall be full performance of Seller's obligations herein assumed to deliver natural gas. Seller shall have the right but shall not be required to deliver hereunder to Buyer any natural gas purchased by Seller from other producers. Seller reserves the right to contract with the United States for submission of its helium bearing natural gas for helium extraction purposes as provided in the contract between Seller and the United States (Exhibit "B"), and Seller also reserves the right to sell to the United States that part of its gas leaseholds, gas rights and gas properties described in the contracts between Seller and the United States, dated May 17, 1927 and March 23, 1928, respectively, copies of which are hereto annexed and marked Exhibit "C" and "D," respectively, and Seller reserves the right to use natural gas from its wells for fuel in its drilling for natural gas and for fuel in the operation of any compressing stations now or hereafter constructed and operated by Seller, but subject to such reservations and to them only the requirements of Buyer hereunder shall have first preference and call at all times during the continuance of this contract on all the natural gas contained in or to be produced from Seller's lands, gas leaseholds, gas rights, gas reserves and gas wells presently held or hereafter acquired in the nature of covenants running with the lands in all hands.

IV. The Seller agrees to construct the pipe line mentioned and described in its contract with the United States, Exhibit "B", and upon the completion of such construction, to lease such pipe line to Buyer for operation until such time as the United States shall exercise its option to buy such pipe line or until such time as the right of the United States to buy such pipe line shall expire. The rental to be paid under such lease shall be One Hundred Dollars (\$100.00) per year.

Buyer agrees to perform all of Seller's obligations with respect to the transportation, submission to helium extraction and disposal of residue gas set forth in Seller's contract with the United States, Exhibit "B".

Seller agrees to pay to Buyer, as and when received, all amounts paid by the United States to it with respect to the transportation, submission to helium extraction, loss in helium extraction and all other amounts due under the contract, Exhibit "B", excepting only amounts due with respect to the drilling of wells.

If the United States fails to exercise its option to purchase the Cliffside Structure as provided in the contracts between Seller and United States, Exhibits "C" and "D", the Buyer thereupon shall purchase from Seller the pipe line constructed pursuant to the provisions of Seller's contract with the United States, Exhibit "B" and pay therefor the cost of such pipe line and improvements therein together with interest on such cost and improvements at six per cent. (6%) per annum.

V. Seller agrees that it will use its best efforts to renew or extend the gas leaseholds, gas rights, gas contracts and gas estates described in the schedule hereto annexed and marked Exhibit "A", and to prevent lapse, forfeiture or expiration, but Seller shall have the right to surrender or forfeit leases now owned or subsequently acquired, when, in its judgment, exercised in good faith, such leases are proven worthless for commercial natural gas production, and thereupon Seller shall be relieved of all obligation to furnish hereunder natural gas from or with respect to leases surrendered.

VI. For each one thousand (1,000) cubic feet of natural gas, delivered during the period commencing on the date hereof and ending at the beginning of the calendar month in which the Colorado Interstate Gas Company commences making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to Public Service Company of Colorado, Buyer agrees to pay to Seller a price which shall be Seller's cost. For the purpose of ascertaining the amount to be paid each month for natural gas delivered in the preceding month, Seller's cost shall be assumed to be five cents (5c). Within thirty (30) days after the end of

such period. Seller shall compute its cost in the manner provided in sub-paragraphs (1) to (14) inclusive of this Article VI, except that there shall not be included in items (1), (2) and (3) thereof the cost of any wells drilled by Seller during this period, and, provided further, that there shall be included in item (8) thereof only one-eighth ($\frac{1}{8}$ th) of the interest accruing on or with respect to any Indenture of First Mortgage and Deed of Collateral Trust or Bonds issued by Seller, and, provided further, that there shall not be included any amounts for Sinking Fund payments due under and by virtue of any Indenture of First Mortgage and Deed of Collateral Trust given by Seller. When such cost shall have been determined, the proper adjustment of amounts paid or to be paid for the period shall be made.

For each one thousand (1,000) cubic feet of natural gas delivered during the period beginning with the first day of the calendar month in which the Colorado Interstate Gas Company commences making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, and continuing for one (1) year thereafter, Buyer agrees to pay Seller's cost. For the purpose of ascertaining the amount to be paid each month for natural gas delivered in the preceding month of this period, Seller's cost shall be assumed to be five cents (5¢). Within thirty (30) days after the end of this period, Seller shall compute its cost in the manner provided in sub-paragraphs (1) to (14) of this Article VI, provided, however, that if during this period the amount of natural gas delivered by Seller to Buyer shall be more than one-half ($\frac{1}{2}$) the amount of natural gas delivered by Seller to the Colorado Interstate Gas Company under Seller's contract with that Company dated January 3rd, 1928, then, in computing Seller's cost for the period, no amounts for interest or Sinking Fund shall be included under or pursuant to the provisions of sub-paragraph (8) of this Article VI, and in lieu thereof the total amount to be paid by Buyer to Seller for natural gas delivered during this period as thus determined shall be increased by adding thereto one-sixth ($\frac{1}{6}$ th) of all the amounts for interest and Sinking Fund which Seller is required to pay during such period to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the Indenture

of First Mortgage and Deed of Collateral Trust given by Seller to said Trustee. If the amount thus determined is greater or less than the amount of the payments already made by Buyer to Seller for natural gas delivered during this period, the proper adjustment of amounts paid or to be paid shall be made.

For each one thousand (1,000) cubic feet of natural gas delivered during each three (3) months of the period commencing with the beginning of the twelfth (12th) calendar month after that in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado and continuing for so long as this contract remains in force, Buyer agrees to pay Seller a price which shall be determined by adding:

(1) Seller's entire cost, including natural gas used for fuel and charged at the average price being paid by Seller for natural gas purchased from other producers, or, if Seller is not purchasing natural gas from other producers, then at the fair market value thereof at the mouth of the well in the field, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas which do not result in procuring natural gas in commercial quantities; provided, however, that there shall not be included herein any item of cost incurred after ten (10) years after the beginning of the calendar month in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado.

(2) Such amount as may be necessary during the year ending with the day preceding the beginning of such three (3) months' period to amortize on a ten (10) year basis Seller's cost, including natural gas used for fuel and charged at the price provided in subparagraph (1) of this Article VI, during the first ten (10) years after the beginning of the calendar month in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public

Service Company of Colorado, of drilling wells for natural gas which result in procuring natural gas in commercial quantities.

(3) Seller's entire cost, including natural gas used for fuel and charged at the price provided in subparagraph (1) of this Article VI, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas irrespective of whether such wells result in procuring natural gas in commercial quantities; provided, however, that no amount shall be included pursuant to this subparagraph (3) in determining the price for any period prior to ten (10) years after the beginning of the calendar month in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado.

(4) Seller's entire cost, including natural gas used for fuel and charged at the price provided in subparagraph (1) of this Article VI, during the year ending with the day preceding the beginning of such three (3) months' period, of producing natural gas, maintaining producing equipment, operating wells, all rentals paid by Seller in carrying its gas leaseholds, gas rights and gas estates; all royalties on gas wells and gas production; the purchase price paid by Seller to producers or vendors thereof for natural gas, other than that used for fuel, purchased; all expense, other than the purchase price, of procuring natural gas purchased by Seller from other producers; all costs of the foregoing operations and maintenance not otherwise herein enumerated, and two-thirds ($\frac{2}{3}$ rd) of all unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation, preservation and maintenance of its gas leaseholds, gas rights, gas contracts and gas estates described in the schedule annexed hereto and marked Exhibit "A" or hereafter acquired; and to the operation and maintenance of its gas wells and producing equipment; provided, however, there shall not be included herein any item elsewhere included in the provisions of this Article VI; and, provided further, there

shall not be included herein any item the amortization of which is included in sub-paragraph (2) of this Article VI.

(5) Such amount as may be necessary, during the year ending with the day preceding the beginning of such three (3) months' period, to amortize on a ten (10) year basis Seller's entire cost of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas; provided, however, that only Seller's cost, during the ten (10) years beginning with the first day of the calendar month in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, shall be included in the amount to be so amortized.

(6) Seller's entire cost, during the year ending with the day preceding the beginning of the three (3) months' period commencing ten (10) years after the first day of the calendar month in which the Colorado Interstate Gas Company begins making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, and, during the year ending with the day preceding the beginning of each three (3) months' period thereafter, of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas.

(7) All charges for the year ending with the day preceding the beginning of such three (3) months' period reasonably necessary for the purpose of maintaining funds or reserves to be used in meeting the cost of renewals, replacements or extraordinary maintenance of compressing stations and facilities used or useful for compressing and delivering natural gas when Buyer requires deliveries made to it after compression at Seller's Amarillo Compressing Station. There shall not be included herein any item of expenditure for current operations or ordinary maintenance.

(8) One-half (1/2) of all the amounts which Seller is required to pay, during the year ending with the day

preceding the beginning of such three (3) months period, to The Equitable Trust Company of New York, Trustee, under and pursuant to the terms of the Indenture of First Mortgage and Deed of Collateral Trust given by Seller to said Trustee, increased when Buyer requires deliveries to be made to it at a central point at the Amarillo Compressing Station site by that proportion of one-half ($\frac{1}{2}$) of all amounts which Seller is required to pay during such year to such Trustee under such Indenture of First Mortgage and Deed of Collateral Trust that Seller's capital investment in gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful for gathering natural gas bears to Seller's capital investment in gathering pipe lines, main compressing stations, supplemental compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it, and increased when Buyer requires deliveries to be made to it after compression at Seller's Amarillo Compressing Station by that part of one-half ($\frac{1}{2}$) of all amounts which Seller is required to pay during such year to such Trustee under such Indenture of First Mortgage and Deed of Collateral Trust that Seller's capital investment in gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations used or useful for gathering and compressing natural gas bears to Seller's capital investment in gathering pipe lines, main compressing stations, supplemental compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(9) All amounts which Seller is required to pay, during the year ending with the day preceding the beginning of such three (3) months period, for interest on account of loans made to it pursuant to the operation of Article Third of its agreement dated January 3rd, 1928 with the Colorado Interstate Gas Company and all amounts which Seller is required to pay during said year on account of the principal of loans made to it

pursuant to the operation of Article Third of its said agreement with the Colorado Interstate Gas Company, except such amounts of said principal as have been expended by Seller for any of the operations described in sub-paragraphs (1) to (6) inclusive of this Article VI, which amounts are charged into Seller's cost of producing natural gas.

(10) All amounts which Seller is required to pay, during the year ending with the day preceding the beginning of such three (3) months' period, for interest and on account of the principal of loans made to it by the Colorado Interstate Gas Company, provided, however, there shall not be included under this sub-paragraph (10) any amount Seller is required to pay for interest or on account of the principal of loans made to it pursuant to the operation of Articles Third or Seventh of Seller's agreement dated January 3rd, 1928 with the Colorado Interstate Gas Company.

(11) All of Seller's cost, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining meters and other equipment, facilities and installations for measuring natural gas, and of measuring natural gas.

(12) When Buyer is receiving deliveries at a central point at the Amarillo Compressing Station site, that proportion of all amounts which Seller is required to pay during the year ending with the day preceding the beginning of such three (3) months' period for interest and on account of the principal of loans made to it pursuant to the operation of Article Seventh of its agreement with the Colorado Interstate Gas Company dated January 3rd, 1928 that Seller's investment in gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful in gathering natural gas and transporting it to its Amarillo Compressing Station site bears to Seller's entire capital investment in gathering pipe lines, main compressing stations, supplemental compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it, and when

Buyer is receiving deliveries of natural gas after compression at the Amarillo Compressing Station, that proportion of all amounts so payable that Seller's capital investment in gathering pipe lines, main compressing stations, supplemental compressing stations and other equipment, facilities and installations used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it bears to Seller's entire capital investment in gathering pipe lines, main compressing stations, supplemental compressing stations, main pipe lines and other equipment, facilities and installations used or useful in gathering, compressing, transporting and delivering natural gas sold by it.

(13) All of Seller's cost, including natural gas used for fuel and charged at the price provided in subparagraph (1) of this Article VI, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering and transporting natural gas to its Amarillo Compressing Station site, such cost to include all expenses not enumerated which are properly chargeable to the maintenance and operation of such gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering and transporting natural gas to its Amarillo Compressing Station site, provided, however, that no amount shall be included under this item unless Buyer is receiving deliveries without compression at a central point at the Amarillo Compressing Station site.

(14) All of Seller's cost, including natural gas used for fuel and charged at the price provided for in subparagraph (1) of this Article VI, during the year ending with the day preceding the beginning of such three (3) months' period, of maintaining and operating gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering, transporting natural gas to

its Amarillo Compressing Station and there compressing such natural gas, such cost to include all expenses not enumerated which are properly chargeable to the operation and maintenance of such gathering pipe lines, supplemental compressing stations, main compressing stations and other equipment, facilities and installations maintained by Seller and used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it, and one-third (1/3rd) of all of Seller's unallocated general, administrative and office expenses which it is agreed represents that part thereof properly chargeable to the operation and maintenance of Seller's main compressing stations: provided, however, that no amount shall be included under this item unless Buyer is receiving deliveries after compression at Seller's Amarillo Compressing Station.

(15) All taxes, except taxes on net income or net profits, payable during the year ending with the day preceding the beginning of such three (3) months' period, because of the ownership or operation by Seller of its natural gas wells, drilling equipment and other facilities and property used or useful by Seller in the performance of its obligations under this contract, its gas leaseholds, gas rights and gas estates, and, when Buyer is receiving deliveries of natural gas at a central point at the Amarillo Compressing Station site, also all taxes, except taxes on net income or net profits, payable because of the ownership or operation by Seller of gathering pipe lines, supplemental compressing stations and other equipment, facilities and installations used or useful for gathering natural gas and transporting it to the Amarillo Compressing Station site, and, when Buyer is receiving deliveries of natural gas after compression at Seller's Amarillo Compressing Station, also all taxes, except taxes on net income or net profits, because of the ownership or operation by Seller of gathering pipe lines, supplemental compressing stations, main compressing stations, and other equipment facilities and installations maintained by Seller and used or useful for gathering natural gas, transporting it to its Amarillo Compressing Station and there compressing it.

and by dividing such total by a divisor which shall be the sum of all the thousands of cubic feet of natural gas sold by Seller during the year ending with the day preceding the beginning of such three (3) months' period.

Should the ascertainment of any of such items of cost be delayed or their amounts change by subsequent information, Seller shall use the best estimate it can make by the exercise of its best judgment in the computation of cost, and semi-annually, on or before the twentieth (20th) day in January and July of each year, an adjustment shall be made between Seller and Buyer to meet the preceding six (6) months' actual cost under items and instructions above set forth.

VII. The natural gas delivered hereunder at the gate valves of Seller's wells shall be natural gas as produced in its natural state from the wells. All natural gas delivered hereunder at pipe connection points at which Seller receives natural gas purchased from other producers shall be natural gas in the state purchased by Seller from such other producers and Seller shall at all times use its best effort to purchase natural gas in its natural state from wells. All natural gas delivered hereunder at a central point at Seller's Amarillo Compressing Station site or from Seller's Amarillo Compressing Station shall be natural gas resulting from the commingling of natural gas as produced in its natural state from the wells by Seller and natural gas purchased by Seller from other producers.

VIII. At the place or places where delivery of the natural gas is made hereunder, Seller shall furnish, install, operate and maintain, at its own expense, measuring apparatus properly equipped with orifice meters and recording gauges or other type of meter or meters of standard style as may be mutually agreed upon, the measurements of which shall fix the total amount of natural gas delivered by Seller to Buyer.

The measuring equipment so installed by Seller, together with any buildings erected by it for such equipment, shall be and remain its property. Buyer shall have access to said metering equipment at all reasonable times but the reading, calibrating and adjusting thereof and changing of

charts shall be done only by the employees or agents of Seller. Charts and records from such metering equipment shall remain the property of Seller. Upon request of Buyer, Seller will submit to Buyer records and charts from its metering equipment, together with calculations therefrom, for Buyer's inspection and verification, subject to return by Buyer, within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file by Seller for the mutual use of both parties. At least twice each month and on days as near the first and sixteenth of the month as practicable, Seller shall calibrate its meter in the presence of representatives of Buyer and the parties shall jointly observe any adjustments which are made in the meter should such adjustments be necessary and if the check meters hereinafter provided for have been installed the same shall also be calibrated by Buyer in the presence of representatives of Seller and any adjustments jointly observed should such adjustments be necessary. If either party at any time desires a test of any meter, or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party and the parties will then cooperate to secure an immediate calibration test and joint observation of any adjustments and the meter shall then be adjusted to accuracy and corrections jointly made for the monthly settlements. Each company shall give to the other company notice of the time of all tests of meters sufficiently in advance of the holding of the tests so that the other company may conveniently have its representatives present. If upon any test any metering equipment is found to be inaccurate by one per cent (1%) or more, registrations thereof shall be corrected at the rate of such inaccuracy for any period which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon, then for a period extending back one-half ($\frac{1}{2}$) of the time elapsed since the last date of calibration, not exceeding, however, eight (8) days. Following any test, metering equipment found inaccurate shall immediately be restored as closely as possible to a condition of accuracy. If for any reason meters are out of service and/or out of repair so that the amount of natural gas delivered cannot be ascertained or computed from the reading thereof, the natural gas delivered through the period

such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available using the first of the following methods which is feasible:

(a) By correcting the error if the percentage of error is ascertainable by calibration, test of mathematical calculation.

(b) By using the registration of any check meter or meters if installed and accurately registering.

(c) By estimating the quantity of delivery by deliveries during preceding periods under similar conditions when the meter was registering accurately.

The unit of measurement for the natural gas deliverable under this agreement shall be One thousand (1,000) cubic feet of natural gas at a base temperature of sixty (60) degrees Fahrenheit and at a base pressure of two (2) pounds gauge pressure above fourteen and four-tenths (14.4) pounds absolute atmospheric pressure and the readings and registrations of the metering equipment herein provided for shall be computed into such units. For the purpose of measurement, the natural gas deliverable hereunder shall be assumed to obey Boyle's Law and the average absolute atmospheric (barometric) pressure shall be assumed to be fourteen and four-tenths (14.4) pounds to the square inch, irrespective of the actual elevation or location of the delivery point above sea level or of variations in such barometric pressure from time to time. If meters other than the orifice type are used, then in computing the readings and registrations of such metering equipment into the units above specified, the physical characteristics of the natural gas which affect such computation shall be given each their due consideration, and the determination of such physical characteristics shall be made by standard apparatus and methods and at such time and places as, in accordance with good practice, may be agreed upon from time to time between the delivering company and the receiving company. For meters of the orifice type, the following factors shall be given due consideration, viz:

(a) The temperature of the natural gas flowing through the meter shall be obtained by the use of a

recording thermometer so installed that it may properly record the temperature of the natural gas flowing through the meter. The average temperature recorded each day shall be used in computing measurements.

(b) The specific gravity of the natural gas shall be determined twice monthly by joint test on days as near the first and sixteenth of the month as practicable or as much oftener as is found necessary in practice. The method of test used shall be by Edward's Balance or by such other method as shall be agreed upon by the parties. The regular test at the first of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries during the first fifteen (15) days of such calendar month or until changed by special test, the special test to be applicable from the day made and through the following days to and including the fifteenth day of such calendar month. The regular test made on the sixteenth of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries in that part of such calendar month commencing with the sixteenth day and continuing until the end thereof or until changed by special test, the special test to be applicable from the day made through the remaining days in such calendar month.

Buyer may at its option and at its cost and expense install and operate check metering equipment, but the metering equipment of Seller shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by Buyer, together with any buildings erected by it for such equipment, shall be and remain its property. Whenever the point of delivery as specified herein is on the premises of Seller, Seller grants to Buyer the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and/or removal. The check metering equipment and the method of installation of the same shall be of such standard type for the measurement of natural gas as is approved by both companies, but Buyer shall have the right to replace such equipment at any time with metering equipment of equal grade subject to the approval of Seller as to type and method of installation.

In the event check metering equipment is installed by Buyer, Seller shall have access to the same at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by employees or agents of Buyer. Charts and records from said check metering equipment shall remain the property of Buyer. Upon request of Seller, Buyer will submit to Seller records and charts from said metering equipment, together with calculations therefrom, for Seller's inspection and verification, subject to return by Seller within ten (10) days after receipt thereof.

Seller shall render to Buyer, on or before the fifteenth (15th) day of each month, a statement of the amount of natural gas delivered to Buyer during the calendar month immediately preceding and of the amount of payment or payments then due from Buyer to Seller therefor. The statements of deliveries so furnished by Seller to Buyer shall be conclusive upon the parties excepting as to the corrections and/or adjustments then pending, unless exceptions thereto in writing shall be made by Buyer within ten (10) days after it shall receive such statement.

IX. Buyer agrees to pay Seller at its office in Amarillo, Texas, on or before the twentieth (20th) day of each month for natural gas delivered during the preceding month according to the gas measurements and computations and at the prices hereinbefore provided for and billed on said monthly statement. Should Buyer fail to pay any amount due from it to Seller when such amount is due and such failure to pay continues for sixty (60) days, then Seller may suspend deliveries of natural gas, but the exercise of such right shall be in addition to any and all other remedies available to Seller.

X. Seller agrees to keep proper books, records and accounts, so as to reflect accurately and in detail monthly and annually its investments and expenses, and in particular its cost of producing and obtaining natural gas, the sources and costs of any natural gas purchased from other producers, and its sales of natural gas with names of purchasers, and shall furnish Buyer monthly as soon as practicable after the first of each month a statement showing the above items and accounts for the preceding month.

Buyer shall have the right at all reasonable times to go upon the property of Seller and to make such inspection and investigation of same as it may desire and to examine and audit Seller's books, accounts, contracts, meters and records relating to the above items of accounts.

Buyer agrees to furnish from time to time to Seller a statement in detail of its sales of natural gas to its consumers and furnish Seller copies of its contracts and copies of its records of sales and any other data that, in the opinion of Seller, may be necessary or material in the proper administration of this contract and in the proper administration of any contract which Seller has made or may make for the sale of natural gas and give Seller, from time to time, access to its contracts and records of sales and the right to audit and check the same and to call for any other data that may be material to the natural gas deliveries herein agreed upon.

XI. If for any period of time during the term hereof, Seller shall be unable or fail to deliver the full amount of natural gas required by Buyer hereunder, then Buyer shall have the right, during such time as Seller so fails to furnish the required amount of natural gas, to purchase or otherwise obtain natural gas from any available source to supply, at its own expense, such portion of the requirements of its customers as is not obtainable from Seller.

XII. If any dispute arises between the parties to this contract which they were unable to settle, the same shall be submitted to arbitration. Within ten (10) days after the written request of either party for arbitration, Seller shall appoint one arbitrator and Buyer shall appoint one arbitrator, and the two so chosen, within ten (10) days after the appointment of the second of the two so chosen, shall select a third. In case either Seller or Buyer shall fail to name an arbitrator within ten (10) days after the written request of either party for arbitration, the arbitrator appointed by the other party shall be the sole arbitrator. The three arbitrators may act by a majority and the arbitrator or arbitrators, as the case may be, shall forthwith hear the parties, after notice to Seller and Buyer, and shall make their award within ninety (90) days from the submission of the matter to them and said award shall be final and conclusive upon the parties.

XIII. This contract shall continue for twenty (20) years from the day on which the Colorado Interstate Gas Company begins delivering natural gas purchased from Seller to the Public Service Company of Colorado and so long thereafter as Seller has available for delivery to Buyer hereunder quantities of natural gas which Buyer determines are profitable for it to buy under the terms of this contract.

XIV. In the event of either party being rendered unable wholly or in part by *force majeure* to carry out its obligations under this contract other than to make payments of amounts due hereunder, it is agreed that on such party giving notice and full particulars of such *force majeure* in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such *force majeure*, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "*force majeure*" as employed herein shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraint of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, the necessity for making repairs and/or alterations in machinery or lines of pipe, freezing of wells or lines of pipe, sudden partial or entire failure of natural gas wells, and any other cause, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

XV. All notices to be given hereunder by Seller to Buyer shall be given by registered mail or delivering the same to Buyer at its office at Amarillo, Texas, or at such other office as may be hereafter designated by Buyer for the purpose, and all notices to be given by Buyer to Seller shall be given by registered mail or delivering the same to Seller at its office at Amarillo, Texas, or at such other office as may be hereafter designated by Seller for the purpose.

XVI. This agreement shall inure to the benefit of and

be binding upon the successors and assigns of the parties hereto. Whenever any corporation is referred to herein, such reference shall be deemed to include the successors and assigns of any such corporation.

XVII. As between the parties hereto, Seller shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby until the same shall have been delivered to Buyer, after which delivery Buyer shall be deemed to be in exclusive control and possession thereof and responsible for any such injury or damage.

XVIII. If either party shall fail to perform the covenants or obligations imposed upon it under and by virtue of this contract, then in such event the other party may, at its option, terminate this contract by proceeding as follows:—

The party not in default shall cause written notice to be served on the party in default, stating specifically the cause for terminating this contract and declaring it to be the intention of the party giving the notice to terminate the same; thereupon the party in default shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating the contract and if, within said period of thirty (30) days, the party in default does so remove and remedy said cause or causes and fully indemnifies the party not in default for any and all consequences of such breach, then such notice shall be withdrawn and this agreement shall continue in full force and effect. In case the party in default does not so remedy and remove the cause or causes and/or does not indemnify the party giving the notice for any and all consequences of such breach within said period of thirty (30) days and if the party giving the notice does not withdraw the notice, then such agreement shall become null and void from and after the expiration of said period. Any cancellation of this agreement pursuant to the provisions of this article shall be without prejudice to any right of the party not in default to collect any amounts then due to it and without waiver of any other remedy to which the party not in default may be entitled for violation of this contract.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly signed by their respective officers the day and year first above written.

CANADIAN RIVER GAS COMPANY,
By W. S. FITZPATRICK
President.

Attest:

VICTOR A. IOBE

[SEAL] Secretary

AMARILLO OIL COMPANY,
By N. K. MOODY
President.

A. B. HOOKINS

[SEAL] Secretary

Exhibit "E"

This Memorandum of a Contract made and entered into by and between AMARILLO OIL COMPANY, a private corporation of Amarillo, Texas, as first party and Perry A. Little, of Buffalo, New York, as second party,

WITNESSETH:

I

First party is the owner of oil and gas leasehold interests in and to divers tracts and parcels of land situated in Potter County and adjoining counties in the State of Texas, and is engaged in drilling, testing and exploiting said lands with the view of developing and producing therefrom oil and gas and their products for commercial purposes. There is now on Section 65, Block O18 in Potter County, a gas well called the Hapgood Well, which it is assumed has a capacity of _____ cubic feet of gas per day.

II

Second party represents himself and others who desire by means of a pipe line to be constructed, to convey all such gas as may be produced by first party as required for the consumption of Amarillo to consumers in and in the vicinity of Amarillo at price herein mentioned, for sale and consumption in the usual course of business.

III

In consideration of the premises aforesaid and \$1.00 cash in hand paid, and of the mutual benefits to be derived therefrom, the parties have agreed and hereby do agree as follows:

IV

1. That first party sells and agrees to deliver to second party and his associates or assigns, the gas at any and all wells owned by first party, located in Potter and adjoining counties, from and after the time a proper pipe line is so constructed, connected and completed as to receive such gas, at the price and upon the terms herein stipulated, sufficient to supply all needs of Amarillo and vicinity in the event such gas can be obtained under the terms of this contract.

2. That it is assumed that the one producing well now on Section 65, known as the Hapgood well, has a daily capacity of 10,000,000 cubic feet; and the first party agrees to proceed to drill a second well as soon as possible, not less than one-half mile distant from the Hapgood Well. When such second well shall have been so completed so that the same is producing gas in paying quantities, second party shall have the option of locating and drilling yet another or third well upon the leases owned by first party, the location of which shall not be less than one-half mile from either of the completed wells and at a place to be mutually agreed upon. The cost of such third well will be paid by second party, but the amount so advanced with interest thereon from the time advanced at the rate of 6% per annum, until refunded, will be repaid by first party in gas delivered at the rate herein provided, by deductions from monthly settlements until the full amount has been liquidated; or may be paid in cash at option of first party at any time. If second party elects to put down such third well, it shall be commenced upon the completion of the gas well to be drilled by the first party, that is, when such well is producing gas in paying quantities for commercial purposes, as applied to this contract.

3. That should such third well to be so located and drilled by second party or assigns, be an oil well pro-

ducing oil in paying quantities, the cost of drilling the same shall, nevertheless, be paid for by second party as is herein provided, and second party shall have the right to hold the possession of such oil well including forty (40) acres of land on which same is located until the same has been paid for, and apply the production of all wells to the payment therefor; it being intended and understood that all wells drilled on first party's leases shall be and remain its property, except as mentioned in clause 2, the production thereof, and the proceeds of gas sold through the pipe line being subject to the payment for drilling such well. Should such third well so drilled by second party or his assigns be insufficient to make a total production of gas as is herein contemplated, second party or his assigns is to have the option to locate and drill another well upon the terms and conditions as herein provided for.

4. It is hereby understood and agreed by the parties that should said second well drilled by second party prove to be a dry hole when same has been drilled to the depth of gas strata in said gas field, and after reasonable effort has been made to make same a gas or oil well, the reasonable expense of drilling same shall become a legal obligation of first party.

5. That when three producing wells shall have been thus completed in such territory and are made to produce daily as much as 25,000,000 cubic feet, fairly averaged between the three wells and that the gas from at least two wells be available for the pipe line and so located as to be not less than one-half a mile apart, then the field shall be considered as sufficiently proven and second party as a pipe line company, shall commence preparations to lay and proceed with due diligence to lay a good and sufficient pipe line, not less than eight inches in diameter, so located and connected as to deliver gas from such wells into Amarillo and vicinity.

6. Second party shall pay first party for all gas sold by it to him or said pipe line company eight (8) cents per 1000 cubic feet, to be paid monthly upon meter readings as herein provided.

7. That first party agrees to accept the reading of

meters in the City of Amarillo as a basis for monthly settlements; but it reserves to itself the right or option of installing meters in the field at any time after one year from the time gas was first received into such pipe line; and should first party decide to install meters in the field, then the base of measurement will be agreed upon mutually.

8. That the pipe line company—for whose benefit this contract is made—is to have the first and prior right to take, at the price and upon terms herein stipulated, all gas produced from the lands owned or leased, and all that may be acquired by deed or lease and controlled by first party or its assigns, and located in said fields in Potter and adjoining counties, sufficient to supply Amarillo and vicinity; and first party is to have first and prior right to furnish gas to such pipe line, and the pipe line company is bound to take at said rate, from the first party, to the exclusion of all others, gas produced by first party's wells, up to the capacity of the pipe line, or the consumption in the City of Amarillo and vicinity. The party of the first part reserves the right to sell all gas produced above the requirements of the party of the second part, as stated in this contract, conditioned that such wells shall not be drawn upon to an amount such as to impair the production of said wells as applied to this contract and its obligations, the object being the proper conservation of the gas.

9. It is further agreed and understood by and between the parties hereto, that in order that the party of the second part or assigns may be assured of sufficient ground upon which gas may be produced as needed by said pipe line company, to be drilled or prospected upon as hereinbefore set forth, that the party of the first part hereby agrees that should it hereafter sell all or any part of its leases which it may now own on the following tracts; viz: Sections 62, 63, 64, 65, 66, 70, 71, 72, 93, 102 and 103, Block 018, D. & P. R. R. Co. such assignment will be made as a covenant running with the land that said pipe line company will, if it needs the gas, have the right to develop or endeavor to develop gas upon said property in the hands of the assignee or assignees in accordance with the terms of this contract with the assignor and such assignee

will have the right to pay said pipe line company the reasonable expense for said well. In the event the assignee develops gas in paying quantities the pipe line company shall have the prior right to connect its pipe line with said well or wells paying therefor the rate stipulated herein, and such assignee or assignees will not have the right to sell the gas from the well so developed by him until said pipe line company has refused and failed to exercise its preference to take the gas from said well according to the terms of this contract.

10. In the event of a deficiency of gas for the purpose of meeting the demands of the pipe line company according to the terms of this contract and the party of the first part after having been requested by the pipe line company to develop and it refuses or fails to do so, the pipe line company, in that event, will have the right to purchase gas from others or develop gas on the lands then owned by the party of the first part or on the sections above described and if gas is produced by said pipe line company sufficient to make up said deficiency, such gas will go into said pipe line as the property of said pipe line company, however, it is understood and agreed that said pipe line company shall at all times, in view of above condition mentioned, to wit, such deficiency, take and pay for all the gas produced by the wells of the party of the first part according to the rate and terms of this contract. It is agreed that any oil well produced by party of the second part in its development work shall become the property of party of the first part upon its paying the reasonable expenses of said well to the party of the second part, provided said oil well affords oil in paying quantities and is developed on land belonging to party of the first part.

11. Second party is to begin preparation for the construction of the pipe line as soon as there is a minimum production of 25,000,000 cubic feet produced by the two or three wells herein first provided for, and shall complete such line within four months from the time 25,000,000 cubic feet is produced at the wells, unavoidable delays and accidents excepted. In the event of unavoidable delays and accidents the time of such exception will be extended proportionately.

12. First party is to reserve the right to the gasoline which may be derived from such natural gas and also reserve the right to sell gas for the consumption of the field for drilling purposes, and to other parties, but it agrees, however, that it will first deliver gas to the pipe line company at the wells to supply the needs of Amarillo and vicinity, except that it reserves the fuel right in all events to drill other wells.

13. The party of the second part may, by written assignment at any time within one year from the date of this instrument, assign this contract and his rights thereunder to a corporation to be formed by him and his associates under and pursuant to the laws of Texas, which corporation shall be legally capable of operating under this contract to the full extent that said party and his associates are required to operate under this contract. Said assignment shall provide that the said proposed company shall, from and after the date thereof in all respects assume and be bound by all the unfilled duties, obligations, covenants and agreements of the said party and his associates, with the same force and effect as if when this contract was made the said company to be formed had legally been in existence, capable of making this contract and had made and entered into the same with the party of the first part in place and stead of the party of the second part. The said company to be formed shall then accept said assignment subject to all its conditions in due form of law, and serve upon the party of the first part a duly certified copy of said assignment and of the resolutions of its Board of Directors accepting the same, and from and after the date of such service, all rights and obligations of said party of the second part shall cease and such rights and obligations shall inure to and become obligatory on said company to be formed.

14. The party of the second part at the time of the execution of this contract, as an evidence of good faith, deposits in the National Bank of Commerce, of Amarillo, the sum of Five Thousand (\$5,000.00) Dollars as security for the building of said pipe line as herein agreed. In case said line is built by first party or his assigns as herein

agreed, or in case said first two wells herein referred to or said three wells, if such third well be drilled, do not make a minimum production of said 25,000,000 cubic feet of gas per day, or in case said two wells do not make such production and second party promptly notifies first party of his intention not to drill said third well, then and in either event and on the happening thereof, said \$5000.00 shall be forthwith returned to second party.

In case, however, said two wells or said three wells if the third well be drilled as herein provided, do make the minimum production of 25,000,000 cubic feet of gas per day as above provided and second party or his assigns do not build said pipe line or take said gas as herein provided, and promptly so notifies first party, then and in either event and upon the happening thereof, this contract shall become null and void and inasmuch as the damages sustained by first party by reason of the violation thereof by second party could not be readily ascertained and determined, it is mutually agreed that in either of said events, said sum of Five Thousand Dollars shall be paid over to first party as its liquidated and stipulated damages for breach of this contract and not as a penalty.

Executed in duplicate, either copy to be considered an original this 7th day of December, 1918.

AMARILLO OIL COMPANY,

By (Signed) M. C. NOBLES,

President.

Party of the first part.

(Signed) PERRY A. LITTLE,

Party of the second part.

Exhibit "E" (Continued).

Supplemental Contract.

WHEREAS, the undersigned Amarillo Oil Company and Perry A. Little, heretofore entered into their contract bearing date the 7th day of December, A. D. 1918, comprised of four divisions, with divisions IV subdivided into fourteen subdivisions or paragraphs, providing for the production and sale by the Amarillo Oil Company to said

Little (or a pipe line company he might organize) gas to be obtained from certain lands in Potter and adjoining counties then being held by the said Oil Company under lease, as will appear from said contract which is hereby referred to and supplemented; and,

WHEREAS, the undersigned, Albert R. Jones, E. W. Goebel and Frank E. Jones, Administrator, have acquired and claim an undivided one-half interest of the interest of the Amarillo Oil Company in and to said contract; and,

WHEREAS, said original contract upon the part of Perry A. Little was made in contemplation of organizing the undersigned Panhandle Pipe Line Company, which company has been subsequently organized and has acquired all the interest of the said Perry A. Little in and to such original contract; and,

WHEREAS, Paragraph 7 of Division IV of said original contract provides, "That first party agrees to accept the reading of meters in the City of Amarillo as a basis for a monthly settlement; but it reserves to itself the right or option of installing meters in the field at any time after one year from the time gas is first received into such pipe line; and should first party decide to install meters in the field, then the basis of measurement will be agreed upon mutually"; and,

WHEREAS, Paragraph 12 of Division IV provides that "The first party is to reserve the right to the gasoline which may be derived from such natural gas and, also reserve the right to sell gas for the consumption of the field for drilling purposes, and to other parties, but it agrees, however, that it will first deliver gas to the pipe line company at the wells to supply the needs of Amarillo and vicinity, except that it reserves the right of fuel in all events to drill other wells," and,

WHEREAS, it is desired to supplement the original con-

tract in reference to said Paragraphs 7 and 12 of Division IV:

NOW, THEREFORE, in consideration of the mutual promises and agreements of the respective parties hereto, it is mutually agreed by between and among the undersigned parties interested as aforesaid, as follows, to-wit:

1. That, since the first party has elected to install meters in the field, the measurement of the gas shall be computed on the basis of two (2) pounds and in accordance with the Foxboro tables and methods of computation.
2. The right is mutually granted by each to the other parties, at all reasonable times and under reasonable conditions, to inspect and compare the meters and the meter readings, in the field on the pipe line, at the city limits of Amarillo, and in the city itself.
3. Either party shall have the right to test the meter in the field but neither party shall test or adjust such meters in the absence of a representative of the others, and the parties agree to have such representative present, on reasonable request, at any and all times; and for this purpose it is understood that a representative of the Amarillo Oil Company will be considered as a representative of the Jones interests, and a representative of the Jones interests will be considered as a representative of the Amarillo Oil Company.
4. In case a meter be found inaccurate, defective, or ceases to register for any period, the same shall be repaired or replaced and the quantity of gas delivered during such period shall be estimated as accurately as possible by the average of other meter or meters and by the amount of gas delivered for the same service during a preceding or succeeding corresponding period of time and under the same conditions. In the event of a disagreement between the parties hereto as to the accuracy of a meter, the said disagreement shall be referred to the Foxboro Meter Company for final adjustment.

5. Paragraph 12 of Division IV of said contract shall be and is hereby amended so as to read as follows:

First party is to reserve the right to sell gas for the consumption of the field for drilling purposes, and to other parties, but it agrees, however, that it will first deliver gas to the pipe line company at the wells to supply the needs of Amarillo and vicinity, except that it reserves the fuel right in all events to drill other wells, and also reserves the right to the gasoline which may be derived from the natural gas delivered under the terms of this contract, and shall have the privilege of erecting the necessary plant and equipment for the purpose of extracting the acid gasoline at any point along the line of second party, and of diverting said gas thru such plant or plants, subject, however, to the following terms and limitation, that is to say:

(a) In case a gasoline extracting plant is located along the main line at any point between the field and the city limits, all gas that passes thru such plant is to be metered by the same type of meter and computed at the same temperature, barometer and pressure base into and out of said extracting plant, at the expense of first party, and any loss or shrinkage in volume is to be deducted from the reading shown by the field meters.

(b) All expenses, charges and damages sustained by the Pipe Line Company arising out of and caused by the fact that a gasoline plant is installed and operated on the pipe line, not including losses in sales of gas by said company are to be paid to the Pipe Line Company by the first party.

(c) The Panhandle Pipe Line Company shall be the sole judge as to whether or not gas is being delivered into its mains at a sufficient pressure to meet the full demands of its business in Amarillo and vicinity, and can at any time demand that the pressure be raised on the discharge side of the gasoline extraction plant sufficient to supply such demands and second party agrees to notify first party promptly when it is possible to reduce the pressure on the discharge side of the extraction plant, and the second party

will not make demands for pressure changes unless it is compelled to do so by the actual demands of its markets but at no time can the Pipe Line Company demand a greater pressure on the discharge side than it is carrying on the inlet side.

(d) It is the intention of the first party to at no time interfere with the delivery of sufficient gas to supply the entire needs of the second party, and it is the intention of the second party to at all times aid the first party by allowing them to reduce the pressure as much as is necessary so long as it does not interfere with the delivery of gas in the city of Amarillo and vicinity in accordance with its franchise, and should the first party at any time feel that the second party was acting arbitrary or unreasonable in their demands for pressure the first party shall have the right to demand that the pressure requirements be submitted to a committee of three for arbitration, one committeeman to be selected by the party of the first part and one by the party of the second part, and the two so selected are to select the third member of the committee.

(e) If such extraction plant be located on the Pipe Line Company's pipe line between the meters thru which it receives gas in the field and the city limits, then first party shall pay to the second party for all gas consumed as fuel to operate the plant, and such gas so consumed must be metered separately and be paid for by the first party at the legal and regular rate charged by the Amarillo Gas Company in Amarillo and vicinity.

(f) In the event the first party, at any time, fails to furnish the Pipe Line Company a sufficient supply of gas, so that the Pipe Line Company does buy gas from others under the provisions of the original contract, and the pipe line connections and location of gasoline extracting plant, are such, as to pass such gas thru the extracting plant, then the Oil Company shall pay the pipe line company, at the prevailing market price, for such proportion of the total product of such plant as the gas it furnishes bears to the entire amount of gas passing thru the plant.

and in accordance with the relative proportion of the gasoline content of the respective gases, less a reasonable charge for extracting and handling.

(g) At no time will the Pipe Line Company be required to raise the pressure on their line on account of the extracting plant or other plants, or be required to carry more than they see fit in the natural operations of their business, and such pressure shall not be interrupted by the gas extracting plant in such way and manner as to interrupt in the supplying of gas by the Panhandle Pipe Line Company to the Amarillo Gas Company and its patrons and consumers in Amarillo and vicinity.

(h) All gas shall be delivered from the extracting plant as free from injurious extraneous matter as same was received.

(i) In as much as actual practice has demonstrated, that a portion of the gasoline content together with moisture clogs and prevents a free flow of gas through field and main lines, it is here agreed that the first party has the option to eliminate a portion of the gasoline and moisture at or near the wells, sufficient to make safe and practical transportation of the gas. However, should the first party refuse or neglect so to do by August 1st, 1922, then the second party shall have the right to install necessary drip tanks, without absorbent materials, to extract such portion of gasoline and moisture, but only to the extent of rendering the gas suitable for efficient transportation and should the drips fail to remove sufficient gasoline and moisture then another method of removing same shall be mutually agreed upon and the first party reserves the right to themselves at any time and all times to take over the problem of extracting the gasoline and moisture at or near the wells, but at any time thereafter that the first party refuse or neglect so to do by August 1st, 1922, moisture to render the gas suitable for efficient transportation the second party shall again have the right to extract such portion of gasoline and moisture, but only to the saved at any time by the second party shall be its property.

IN WITNESS WHEREOF, the parties have caused these presents to be executed, and execute the same as of date the 13th day of March, A. D. 1922.

Attest:

(Signed) J. M. NEELY
Secretary

AMARILLO OIL COMPANY,
(Signed) M. C. NOBLES
President

(Signed) E. W. GOEBEL

(Signed) FRANK E. JONES Administrator

(Signed) ALBERT R. JONES

Their Agent and Attorney-in-fact

(Signed) ALBERT R. JONES

PANHANDLE PIPE LINE COMPANY

(Signed) PERRY A. LITTLE
President

Attest:

(Signed) T. LORIN DRISCOLL
Secretary

Exhibit "E" (Continued).

Supplemental Contract and Agreement.

This Contract and Agreement, made and entered into on this 27th day of November, 1926, by and between the AMARILLO OIL COMPANY, a private corporation of Amarillo, Texas, on the one part, and the PANHANDLE PIPE LINE COMPANY, on the other part,

WITNESSETH:

WHEREAS, on the 7th day of December, 1918, a certain contract was entered into by and between the Amarillo Oil Company as party of the first part, and Perry A. Little, party of the second part, which said contract was in the respects indicated therein amended and changed by a Supplemental Contract between the Amarillo Oil Company, E. W. Goebel, Frank M. Jones, Administrator, and Albert R. Jones, and the Panhandle Pipe Line Company, of date March 13, 1922, to which said contracts reference is hereby made, and

WHEREAS, on the 23rd day of November, 1926, in an action instituted in the District Court of Williamson County, Texas, by the State of Texas against the Amarillo Oil Company, the Panhandle Pipe Line Company and Perry A. Little, it was adjudged and decreed that said aforementioned contract of date December 7th, 1918, and especially paragraph eight (8) thereof, violated the provision of the Anti-Trust Laws of the State of Texas, and it was further adjudged and decreed by said Court that further operations under said contract and especially paragraph eight (8) thereof, be perpetually enjoined and restrained, and

WHEREAS, in harmony with said judgment and decree, the Panhandle Pipe Line Company, through its proper officials, and the Amarillo Oil Company, through its proper officials, abrogated and terminated said contract in so far as the same was a violation or found to be a violation of the Anti-Trust Laws of the State of Texas, and the officials of said respective Companies were authorized and directed to inaugurate steps for the purpose of entering into a new contract for the sale and supply of gas which would be in harmony with the Anti-Trust Laws of the State of Texas and not in violation thereof.

NOW, THEREFORE, it is agreed by and between the parties of the first and second part, as follows:

1. That all the provisions of said contracts of date December 7th, 1918, and of date March 13th, 1922, found by the Court to be violative of the Anti-Trust Laws of the State of Texas, or that are violations of the Anti-Trust Laws of the State of Texas, be and the same are hereby expressly abrogated, annulled and discharged, and especially paragraph eight (8) of the contract of December 7th, 1918, is hereby expressly abrogated, annulled and discharged.

2. It is further agreed by and between the parties hereto that said contract of date December 7th, 1918, and the contract supplemental thereto of date March 13, 1922, shall in all other respects continue in full force and effect, according to the terms thereof, provided, however, that nothing herein or in said contracts contained shall be con-

strued as requiring the Amarillo Oil Company to furnish gas to the Panhandle Pipe Line Company, or its successors or assigns, exclusively or to the exclusion of others, or as requiring the Panhandle Pipe Line Company, its successors or assigns, to purchase exclusively or to the exclusion of others, from the Amarillo Oil Company, its successors or assigns, its requirements of gas for the city of Amarillo and vicinity.

That otherwise, and in all other respects, said contracts above referred to shall be and the same are hereby extended and continued in full force and effect, as between the parties hereto.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their respective officers thereunto duly authorized, and their respective corporate seals affixed, the day and year first above written.

AMARILLO OIL COMPANY

By N. K. MOODY

Its President

Party of the First Part

Attest:

A. B. HOOKINS
Secretary.

(SEAL)

PANHANDLE PIPE LINE COMPANY

By H. A. MEYER

Its Vice President

Party of the Second Part.

Attest:

CHAS. H. OLES
Secretary.

(SEAL)

Supplement No. 1 to Rate Schedule FPC No. 1.

This Agreement, made and entered into this First day of October 1929, by and between CANADIAN RIVER GAS COMPANY, a corporation organized and existing under the laws of the State of Delaware (hereinafter called, "SELLER"), party of the first part, and COLORADO INTERSTATE GAS

COMPANY, likewise a corporation organized and existing under the laws of the State of Delaware (hereinafter called "BUYER") party of the second part;

WHEREAS, the parties hereto heretofore made and entered into a certain contract bearing date the third day of January 1928 whereby Seller agreed to sell and deliver and Buyer agreed to purchase and receive natural gas in the amounts, for the prices and under the terms and conditions in said contract set forth; and

WHEREAS, it is to the mutual advantage of the parties hereto to amend said contract of January 3rd, 1928 in the manner and to the extent hereinafter provided;

NOW, THEREFORE, THIS AGREEMENT WITNESSETH: That the parties hereto, in consideration of the covenants and promises hereinafter expressed and of the sum of One Dollar (\$1.00) in hand paid by each to the other, the receipt of which is hereby acknowledged, have mutually covenanted and agreed and do hereby mutually covenant and agree as follows:

Article 1.

That the paragraph marked FIFTH of the agreement between the parties made and entered into on the third day of January 1928 be and the same is hereby amended so that the said paragraph FIFTH shall read and provide as follows:

FIFTH: The natural gas delivered by Seller to Buyer hereunder shall be natural gas as produced in its natural state from the wells, except that Seller may extract or permit the extraction of natural gasoline from its natural gas and may extract or permit the extraction of any helium content of the natural gas, but Seller shall not subject its natural gas nor permit its natural gas to be subjected to any treatment in the extraction of natural gas gasoline or otherwise which shall change the chemical composition of any of its component parts or which will dilute it. If the extraction of natural gasoline and or the extraction of any helium content from the natural gas delivered hereunder shall cause a reduction in the gross heating

value of such natural gas, then at the end of each calendar month Seller shall compute the value of the loss in gross heating value of the natural gas delivered hereunder because of the extraction of natural gasoline and/or helium content; assuming for the purpose of such computation that the value of the natural gas delivered hereunder is the average price per thousand cubic feet received by Seller for natural gas sold during that month. Seller shall afford Buyer an opportunity to witness the tests to determine the gross heating value of the natural gas before and after the extraction of natural gasoline and any helium content, and if the tests are not satisfactory to Buyer new tests shall be made by a disinterested person satisfactory to both Buyer and Seller and the result of such tests shall govern. Seller shall advise Buyer of the value of the loss in gross heating value computed as herein provided and, on or before the twenty-fifth day of the month, Seller shall pay to Buyer the amount shown by said statement to be the value of the reduction in gross heating value lost because of the extraction from the natural gas delivered hereunder of natural gasoline and/or any helium content. The natural gas delivered by Seller to Buyer shall be only natural gas which is commercial in quality and condition, and should any of the natural gas produced by Seller or any of the natural gas purchased by Seller from other producers contain sulphur in quantities which render it unsatisfactory for domestic use or unfit for commercial or industrial use, Seller shall cleanse such natural gas or cause it to be cleansed of its sulphur content before delivering it to Buyer. If the natural gas supplied by Seller to Buyer contains a gross heating value of less than eight hundred (800) B.t.u.'s per cubic foot, Buyer, on giving ten (10) days' written notice to Seller, shall have the right to suspend taking natural gas hereunder until such time as Seller is prepared to supply Buyer with natural gas containing a gross heating value of not less than eight hundred (800) B.t.u.'s per cubic foot.

Article II.

The contract between the parties hereto made and executed the third day of January 1928 shall continue in full force and effect except as herein provided, and this amendment shall be effective as of the third day of January 1928.

IN WITNESS WHEREOF, each of the parties hereto have caused this agreement to be duly signed by its respective officers the day and year first above written,

CANADIAN RIVER GAS COMPANY

By (Sgd) W. S. FITZPATRICK (SEAL)
President

Attest:

(Sgd) VICTOR A. LOBE

Secretary

COLORADO INTERSTATE GAS COMPANY

By (Sgd) CHRISTY PAYNE (SEAL)
President

Attest:

(Sgd) E. E. DuVALL

Secretary

Supplement No. 3 to Rate Schedule FPC No. 1.

Canadian River Gas Company and Colorado Interstate Gas Company. 6-1-38. Supplemental Agreement.

Supplemental Agreement made and entered into June 1, 1938, by and between Canadian River Gas Company, a Delaware corporation, (hereinafter called "Seller"), the first party, and Colorado Interstate Gas Company, a Delaware corporation, (hereinafter called "Buyer"), the second party.

In consideration of the mutual covenants herein contained, the agreement dated January 3, 1928, between the parties hereto as amended by Supplemental Agreement dated October 1, 1929 (hereinafter referred to as the 1928 agreement) relating to the sale by Seller to Buyer of natural gas to supply Buyer's customers in the State of Colorado and elsewhere, be and the same hereby is modified and amended as follows:

4. The third and fourth sentences of Article Third of the 1928 agreement are amended to read as follows:

All amounts so loaned by Buyer to Seller during the first ten (10) years after the beginning of the calendar month (agreed to be June 1928) in which Buyer began making deliveries of natural gas purchased from Seller to the Colorado Fuel & Iron Company or to the Public Service Company of Colorado, except such part of the amounts loaned as may be used by Seller in drilling wells for natural gas which do not result in procuring natural gas in commercial quantities, are to be repaid by Seller to Buyer in one hundred twenty (120) equal monthly installments, and Seller shall pay semi-annually on the first day of January and the first day of July in each year interest at six percent (6%) per annum on any unpaid balances. All amounts so loaned by Buyer to Seller between June 1, 1938 and June 1, 1948 are to be repaid by Seller to Buyer in such number of equal monthly installments as there may be remaining full months before June 1, 1948, and Seller shall pay semi-annually on the first days of January and July in each year, interest at six percent (6%) per annum on any unpaid balance; and in the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article Sixteenth hereof, all amounts so loaned by Buyer to Seller after June 1, 1948 are to be repaid by Seller to Buyer in such number of equal monthly installments as there may be remaining full months before the extended termination date, and Seller shall pay semi-annually, on the first days of January and July in each year, interest at six percent (6%) per annum on any unpaid balance, but if no definite extended date of termination is fixed, then all amounts so loaned by Buyer to Seller after June 1, 1948 are to be repaid by Seller to Buyer within one (1) year from the date such loan is made, together with interest thereon at six percent (6%) per annum. Such part of the amounts so loaned by Buyer to Seller at any time after June 1, 1938, as may be used by Seller in drilling wells for natural gas in commercial quantities is to be repaid by Seller to

Buyer within one (1) year from the day such loan is made, together with interest thereon at six percent (6%) per annum."

2. Article Seventh of the 1928 agreement is amended by the addition of the following:

"In the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article Sixteenth hereof, the amount of each such loan made after said twenty (20) year period is to be repaid by Seller to Buyer in such number of equal monthly installments as there may be remaining full months before the extended termination date and Seller shall pay semi-annually on the first days of January and July in each year, interest at the rate of six percent (6%) per annum on any unpaid balance, but if no definite extended date of termination is fixed, then the amount of each such loan made after said twenty (20) year period is to be repaid by Seller to Buyer within one (1) year from the day such loan is made, together with interest thereon at six percent (6%) per annum."

3. Article Tenth, sub-paragraph (1) of the 1928 agreement is amended to read as follows:

"(1) Seller's entire cost, including natural gas used for fuel and charged at the average price being paid by Seller for natural gas purchased from other producers, or, if Seller is not purchasing natural gas from other producers, then at the fair market value thereof at the mouth of the well in the field, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas which do not result in procuring natural gas in commercial quantities."

4. Article Tenth, sub-paragraph (3) of the 1928 agreement is amended to read as follows:

"(3) Such amount as may be necessary during the year ending with the day preceding the beginning of such three (3) months' period to amortize, on the basis hereinafter described, Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, after June 1, 1938, of drilling wells for natural gas which result in procuring natural gas in commercial quantities. Amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before June 1, 1948; and in the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article Sixteenth hereof, amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before the extended termination date, but if no definite extended date or termination is fixed, then in determining the price of gas there shall be added under this sub-paragraph (3) Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article Tenth, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling said wells."

5. Article Tenth, sub-paragraph (6) of the 1928 agreement is amended to read as follows:

"(6) Such amount as may be necessary, during the year ending with the day preceding the beginning of such three (3) months' period, to amortize, on the basis hereinafter described, Seller's entire cost after June 1, 1938 of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas. Amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before June 1, 1948; and in the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article Sixteenth hereof, amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months be-

fore the extended termination date, but if no definite extended date of termination is fixed, then in determining the price of gas there shall be added under this sub-paragraph (6) Seller's entire cost of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas, during the year ending with the day preceding the beginning of such three (3) months' period."

6. The natural gas which Buyer requires for delivery to Natural Gas Pipeline Company of America under the terms and provisions of the agreement between Buyer and said Natural Gas Pipeline Company of America dated October 15, 1931, as modified from time to time, is a part of the gas sold and delivered under the terms of said 1928 agreement. Such gas shall be delivered by Seller to Buyer into the pipe line of Natural Gas Pipeline Company of America at the junction between the pipe line owned by Texoma Natural Gas Company and Natural Gas Pipeline Company of America near Gray, Beaver County, Oklahoma. Seller will continue in full force and effect the Lease and Operating Agreement dated October 15, 1931 between Seller and Texoma Natural Gas Company, and the agreement of the same date between the same parties relating to the operation of the Gasoline Plant at Fritch, Texas, and will fully perform all the terms and provisions of each thereof in order to enable Seller to make delivery of gas to Buyer at Gray Junction, Oklahoma.

In determining the cost of all gas sold by Seller to Buyer under said 1928 agreement, the amounts paid by Seller to Texoma Natural Gas Company under said Lease and Operating Agreement dated October 15, 1931 shall be included in Article Tenth, sub-paragraph 13, sub-paragraph 6 (a) or sub-paragraph 6 (b), whichever is applicable at the time.

7. The agreement between the parties hereto made and executed the 3rd day of January, 1928, as amended by Supplemental Agreement dated October 1, 1929, shall continue in full force and effect except as herein provided, and

this Supplemental Agreement shall be effective as of June 1, 1938.

Done the day and year first above written.

CANADIAN RIVER GAS COMPANY

By P. C. SPENCER,

Vice President.

Attest:

By GEO. BAIRD,

(Seal) Secretary.

COLORADO INTERSTATE GAS COMPANY

By F. H. LERCH, JR.,

Vice President.

Attest:

By E. E. DuVALL,

(Seal) Secretary.

This Agreement, made and entered into as of the first day of July, 1931, by and between Canadian River Gas Company, a corporation organized and existing under the laws of the State of Delaware, party of the first part, hereinafter called "Seller", and Amarillo Oil Company, a corporation organized and existing under the laws of the State of Texas, party of the second part, hereinafter called "Buyer":

Whereas, heretofore and under date of the 3rd day of January, 1928, the parties hereto entered into a certain agreement wherein and whereby Seller agreed to sell and deliver and Buyer agreed to purchase and receive natural gas in the amount, under the terms and conditions and for the price therein stated, which natural gas is to be used by Buyer in and about the City of Amarillo, Texas; and

Whereas, it is to the mutual advantage of the parties to modify and change some of the provisions of this agreement;

Now, Therefore, the parties hereto, in consideration of, the covenants and payments herein set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the

other, receipt of which is hereby acknowledged, have mutually covenanted and agreed and do hereby mutually covenant and agree as follows:

1. For each one thousand (1,000) cubic feet of natural gas delivered by Seller to Buyer on and after July 1, 1931, under and pursuant to sub-paragraphs (a) and (c) of Article 1 of the agreement between Buyer and Seller made and entered into the 3rd day of January, 1928, and for the purposes expressed in said sub-paragraphs, Buyer shall pay to Seller four and one-half cents (4½c) instead of the price provided in said agreement. Buyer shall continue paying four and one-half cents (4½c) per thousand (1,000) cubic feet for the gas delivered under and pursuant to and for the purposes specified in said sub-paragraphs (a) and (c) of Article 1 of said agreement until the total amount of such payments shall equal the total amount of the price for such gas when computed in the manner provided in said agreement between the parties made and entered into the 3rd day of January, 1928, unaffected by this amendment. Thereafter, Buyer shall pay to Seller for all gas delivered under and pursuant to said agreement the price specified therein as though this amendatory agreement had not been made.

For all natural gas delivered at any time by Seller to Buyer pursuant to sub-paragraph (b) of Article 1 of the agreement between Seller and Buyer made and entered into the 3rd day of January, 1928, and for any other gas delivered under said agreement, excepting only gas delivered under and pursuant to and for the purposes specified in sub-paragraphs (a) and (c) of said Article 1 of said agreement, Buyer shall pay to Seller the price or prices specified in said agreement made and entered into the 3rd day of January, 1928, all as though this amendatory agreement had not been made.

2. The agreement between the parties hereto dated the 3rd day of January, 1928, shall continue in full force and effect except as herein modified.

In Witness Whereof, the parties hereto have caused these

presents to be duly signed and executed, the day and year first above written.

CANADIAN RIVER GAS COMPANY

By P. C. SPENCER,
Vice President.

Attest:

A. W. HEINEMANN.

(Seal) Secretary.

AMARILLO OIL COMPANY

By N. K. MOODY, President.

Attest:

A. W. HEINEMANN.

(Seal) Secretary.

Agreement Between Canadian River Gas Company and
Amarillo Oil Company. Dated: June 1, 1938.

Supplemental Agreement made and entered into June 1, 1938, by and between Canadian River Gas Company, a Delaware corporation, (hereinafter called "Seller"), the first party, and Amarillo Oil Company, a Texas corporation (hereinafter called "Buyer"), the second party.

In consideration of the mutual covenants herein contained, the agreement dated January 3, 1928 between the parties hereto as amended by Supplemental Agreement dated July 1, 1931 (hereinafter referred to as the 1928 agreement) relating to the sale by Seller to Buyer of natural gas for resale to the Panhandle Pipe Line Company for supply in Amarillo, Texas, and its environs, and for sale to the United States Zinc Company near Amarillo, Texas, be and the same hereby is modified and amended as follows:

1. Article VI, sub-paragraph (1) of the 1928 agreement is amended to read as follows:

"(1) Seller's entire cost, including natural gas used for fuel and charged at the average price being paid by Seller for natural gas purchased from other producers, or, if Seller is not purchasing natural gas from other producers, then at the fair market value thereof at the mouth of the well in the field, during the

year ending with the day preceding the beginning of such three (3) months' period, of drilling wells for natural gas which do not result in procuring natural gas in commercial quantities."

2. Article VI, sub-paragraph (3) of the 1928 agreement, is amended to read as follows:

"(3) Such amount as may be necessary during the year ending with the day preceding the beginning of such three (3) months' period to amortize, on the basis hereinafter described, Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article VI, after June 1, 1938, of drilling wells for natural gas which result in procuring natural gas in commercial quantities. Amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before June 1, 1948; and in the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article XIII hereof, amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before the extended termination date, but if no definite extended date of termination is fixed, then in determining the price of gas there shall be added under this sub-paragraph (3) Seller's entire cost, including natural gas used for fuel and charged at the price provided in sub-paragraph (1) of this Article VI, during the year ending with the day preceding the beginning of such three (3) months' period, of drilling said wells."

3. Article VI, sub-paragraph (6) of the 1928 agreement is amended to read as follows:

"(6) Such amount as may be necessary, during the year ending with the day preceding the beginning of such three (3) months' period to amortize, on the basis hereinafter described, Seller's entire cost after June 1, 1938 of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas. Amortization shall be on the basis of such number of equal monthly installments as

there may be remaining full months before June 1, 1948; and in the event of the extension of this agreement beyond the original twenty (20) year period as provided in Article XIII hereof, amortization shall be on the basis of such number of equal monthly installments as there may be remaining full months before the extended termination date, but if no definite extended date of termination is fixed, then in determining the price of gas there shall be added under this sub-paragraph (6) Seller's entire cost of acquiring renewals of existing leases and of acquiring new leases, contracts and other rights to produce natural gas, during the year ending with the day preceding the beginning of such three (3) months' period."

4. Wherever reference is made in Article VI, sub-paragraphs (9), (10) and (12), or elsewhere in this agreement, to the agreement dated January 3, 1928 between Seller and the Colorado Interstate Gas Company, it shall be deemed to include the amendments and modifications of said agreement of January 3, 1928 as embodied in Supplemental Agreement dated October 1, 1929 and Supplemental Agreement dated June 1, 1938 between Seller and Colorado Interstate Gas Company.

5. The agreement between the parties hereto made and executed the 3rd day of January, 1928 as amended by Supplemental Agreement dated July 1, 1931, shall continue in full force and effect except as herein provided and this Supplemental Agreement shall be effective as of June 1, 1938.

Done the day and year first above written:

CANADIAN RIVER GAS COMPANY

By P. C. SPENCER,

Vice President.

Attest:

By GEO. BAIRD,

(Seal)

Secretary.

AMARILLO OIL COMPANY

By N. K. MOODY, President.

Attest:

By E. A. SICKELS,

(Seal)

Asst. Secretary.

The undersigned hereby consents to and approves the above and foregoing Supplement to original agreement between the parties dated January 3, 1928.

(Seal)

COLORADO INTERSTATE GAS COMPANY
By F. H. LERCH, JR., Vice President.

EXHIBIT NO. 6.

Commissioners

Clyde L. Stavey, Acting Chairman

Claude L. Draper

Basil Manly

John W. Scott

Address All Communications
to the Commission

Federal Power Commission
Washington

July 9, 1938.

Gentlemen: Enclosed are the following orders entered by the Commission on July 5, 1938, together with the documents prescribed by said orders:

Order No. 51—instituting an investigation of natural gas companies and directing the filing of a report;

Order No. 52—prescribing provisional rules of practice and regulations under the Natural Gas Act, with approved forms, effective July 11, 1938;

Order No. 53—designating the time for filing schedules of rates and charges under section 4 (c) of the Natural Gas Act and certain reports in connection therewith.

Enclosed also is a copy of the Natural Gas Act, approved June 21, 1938.

It is requested that you supply the information sought under Order No. 51, as soon as possible, but not later than August 15, 1938. The purpose of the Commission in requiring the filing of this report is to obtain basic facts concerning the ownership of facilities and the operations of all companies engaged in the business of transporting or selling natural gas for resale. Compliance with this order

will not be construed as a waiver by any reporting company of its right to contest the jurisdiction of this Commission in any proceeding instituted under the Natural Gas Act affecting such company.

The rules and regulations prescribed by Order No. 52 are applicable to those engaged in the transportation of natural gas in interstate commerce or the sale of natural gas in interstate commerce for resale.

The schedules called for by Order No. 53 are those which are or will be in effect upon the date that filing is made, pursuant to the said Order. As will be observed from its terms, Order No. 53 is applicable only to rates and charges made, demanded or received by any natural gas company for or in connection with the transportation of natural gas in interstate commerce or the sale of natural gas in interstate commerce for resale.

Very truly yours,

LEON M. FUQUAY, Secretary.

Enclosures (4)

United States of America Federal Power Commission.

July 5, 1938

Order No. 53.

Designating the Time for Filing of Schedules of Rates and Charges Under Section 4 (c) of the Natural Gas Act and Certain Reports in Connection Therewith.

The Commission having under consideration the matter of the filing under Section 4 (c) of the Natural Gas Act of schedules showing all rates and charges for any transportation or sale of natural gas subject to the jurisdiction of the Commission, and the classifications, practices, and regulations affecting such rates and charges together with all contracts which in any manner affect or relate to such rates, charges, classifications and services, hereby orders that:

A. Each natural gas company shall file with the Commission, not later than the date hereinafter specified, schedules showing all rates and charges for, or in connection with any transportation or sale of natural gas subject to the jurisdiction of the Commission, and the classifications, practices, and regulations affecting such rates and charges, together with all contracts which in any manner affect or relate to such rates, charges, classifications and services, in accordance with Part 54 of Provisional Rules of Practice and Regulations under the Natural Gas Act, effective July 11, 1938, promulgated by Order No. 52, issued July 5, 1938.

B. If any agreement or practice pertaining to any such transportation or sale of natural gas is not in writing, the basic terms of such agreement or practice shall be reduced to writing, approved by the parties thereto, and filed with the Commission, as prescribed in paragraph "A" above.

C. The date not later than which schedules shall be filed relating to the transportation or sale of natural gas within the various States, as required by paragraph "A" above, shall be as follows:

1. August 22, 1938 for those schedules covering deliveries within the following States: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

2. August 29, 1938 for those schedules covering deliveries within the following States: Alabama, Arkansas, Illinois, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, Tennessee, and Wisconsin.

3. September 6, 1938 for those schedules covering deliveries within the following States: Connecticut, Delaware, Florida, Georgia, Indiana, Maine, Massachusetts, Maryland, Michigan, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia.

D. As to each rate in each instrument filed in accordance with paragraph "A" above, there shall be submitted to the Commission at the time of filing the instrument a report showing by months for a 12-month period ending July 1, 1938, the amount of natural gas transported or sold and the amount charged therefor under each rate in effect during the 12 months ended July 1, 1938, such report to be accompanied by a true copy of a monthly bill rendered thereunder.

LEON M. FUQUAY, Secretary.

By the Commission.

Colorado Interstate Gas Company
30 Rockefeller Plaza
New York

August 22, 1938.

Federal Power Commission,
Washington, D. C.

Dear Sirs: Pursuant to Order No. 53 issued by the Federal Power Commission on July 5, 1938 there are transmitted herewith the schedules of rates and charges of Colorado Interstate Gas Company, required to be filed by Section 4 (c) of the Natural Gas Act.

In filing these schedules, Colorado Interstate Gas Company does not act voluntarily but under duress, and is compelled to file the same by reason of the excessive penalties which would be incurred as a result of a failure to comply with the Act. Such filing is not to be construed as an admission by Colorado Interstate Gas Company that the rates and charges made under the contracts under which it sells natural gas are subject to governmental regulation, and makes reservation of and refuses to waive any constitutional or legal rights which it may have to contest the

authority of the Federal Power Commission to change any rate contained in any of said schedules.

The schedules filed herewith are:

Covering natural gas sold to

Public Service Company of Colorado, Denver, Colorado

The Pueblo Gas and Fuel Company, Pueblo, Colorado

Colorado-Wyoming Gas Company, Denver, Colorado

City of Colorado Springs, Colorado Springs, Colorado

Citizens Utilities Company, La Junta, Colorado

Arkansas Valley Natural Gas Company, Colorado Springs, Colorado

Natural Gas Pipeline Company of America, Chicago, Illinois

Very truly yours,

COLORADO INTERSTATE GAS COMPANY,

By F. H. LERCH, JR.,

Vice President.

The oil rights in the leaseholds described in said agreement of January 3, 1928, between Canadian River Gas Company and Colorado Interstate Gas Company contained in said Exhibit 16, on pages 68 to 90, both inclusive, the description of which leaseholds, by agreement of the parties hereto, has been omitted from this printed record, were owned and held by Parcomis Oil Company. The said Parcomis Oil Company was also the holder of the oil rights in the leaseholds held by Canadian at the time of the hearing herein.

Exhibit 17, 18 and 19 were additional contracts with Amarillo Oil Company covering *intrastate sales* of gas in Texas for Dalhart, Texline, Channing and Hartley, all Texas

municipalities lying in the Texas Panhandle area delimited in Article Third of Exhibit 16, set out above.

Originally Colorado Interstate negotiated and finally made a contract dated June 19, 1928, with Clayton Gas Company of Clayton, New Mexico, for the sale at the city gate of gas for distribution by the Clayton Gas Company in that municipality (Hill, Vol. II, p. 254). Later, and as of June 1, 1933, Colorado Interstate assigned its interest in that contract to Canadian. The original contract and the assignment and supplements thereto constitute Exhibit 20 herein. This contract was filed by Canadian with the Commission under the same reservation of right as mentioned hereinabove with respect to its other contracts.

This contract (Exhibit 20) now between Canadian and Clayton Gas Company, so far as it covers the heat and purity standards and the extraction of gasoline and helium, the methods of delivery metering and billing, and the priorities of domestic customers over industrial users and like matters, are normal and involve no issue in this case. Gas under this contract is delivered at a point "near the city line of Clayton" (Article Third); that is, after a haul over Canadian's line of eighty-six miles from the Bivins Station in the gas field (O'Connor, Ex. 47, p. 3). Accordingly, Article Fifth provides for a price of 30c per Mcf. for the gas delivered for resale to domestic consumers and a price of 20c per Mcf. for gas delivered for resale to industrial consumers and consumers other than domestic consumers and for "gas lost."

Article Fourteenth provides:

"This contract shall continue for fifteen (15) years from the day the Vendor begins deliveries of natural gas hereunder. It is provided, however, that the gas is to be transmitted through Vendor's 22-inch main line presently under construction for the delivery of gas by Vendor to its markets in Denver, Pueblo and elsewhere, and that if the volume of gas available so declines that Vendor no longer maintains said main line, then Vendor may on one year's written notice to

Vendee, terminate this contract so far as it applies to Clayton and its environs, and on maturity of the notice discontinue deliveries of gas hereunder to said city."

By a series of letters which are included in Exhibit 20, the price of gas was temporarily reduced from time to time. Canadian, on February 21, 1940, in a letter to Clayton Gas Company, extended the term to June 23, 1948, to correspond to the termination date of its contract with Colorado Interstate. This letter agreement continued the reduced rates, namely 25c for gas delivered for resale to domestic consumers and 18c for gas delivered for resale to industrial consumers and consumers other than industrial consumers and for gas lost, to May 1, 1941, and thereafter, subject to cancellation on ninety days' written notice. In the event of such cancellation of such temporary rates, the original rates "shall be resumed." It was further provided in this letter that the provisions for the cancellation of the temporary rates and the resumption of the original rates would not apply to gas resold at Clayton for fuel in its municipal light plant.

The original contract for the purchase of gas from Colorado Interstate Gas Company by Clayton Gas Company was entered into on June 19, 1928 (Exhibit 20).

8. Gas Purchase and Sales Contracts of Colorado Interstate Gas Company.

The evidence of the negotiations between the project parties, Standard, Southwestern and Cities Service, leading up to the memorandum of stipulations of April 5, 1927 (Exhibit 1), and the conditions under which said project parties were willing to undertake the project, including the 40c gate rate, has been abstracted under title 2 supra. The evidence of the negotiations between Cities Service and its subsidiary, Public Service, and Standard and Southwestern on behalf of Colorado Interstate, leading up to the letter proposal of June 8, 1927 (Exhibit 4), wherein the sale of gas at the Denver gate, the Pueblo gate (and the Colorado Springs gate in case a contract could be made for that place) at 40c per Mcf. was confirmed, has been abstracted under Title 2 supra. Additional evidence on this point, including excerpts from Exhibit 249, Hancock's statement of the negotiations on the part of Cities Service, will be abstracted hereafter under "Cost of Contracts."

Colorado Interstate's contract with Canadian has just been abstracted under the head of Canadian's contracts and will not be here repeated.

Payne, Colorado Interstate's first president, testified:

"During the entire period that I was associated with the management of Colorado Interstate, every contract was separately negotiated with the customer and in every instance the considerations peculiar to that customer's business were considered and the contract of sale made in recognition of those special problems."

(Vol. IV, pp. 514, 515).

After stating that Colorado Interstate was willing to bring the gas to Denver as a private venture, provided there was reasonable expectation that at the end of the twenty-year period it could recover back all of its investment with adequate earnings for the entire period (Vol. IV, p. 516), he stated:

"The contracts for the sale of gas to Public Service Company and others were made upon this basis." (Vol. IV, p. 516).

"The contract with Public Service Company was finally executed in June, 1928, although dated as of January 3, 1928. At this time Colorado Interstate had not been engaged in the gas business and was under no obligation to enter or carry on that business except upon terms and conditions satisfactory to it." (Vol. IV, pp. 512, 513).

This contract with all amendments, is Exhibit 7-I herein.

Exhibit 7-I.

Federal Power Commission.

Rate Schedule F.P.C. No. 1, also Supplements and Exhibits.

Filed by Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold to

Public Service Company of Colorado, Denver, Colorado.

This schedule consists of agreement dated January 3, 1928, Supplemental Agreement dated July 10, 1929, Supplemental Letter dated February 11, 1933, Amendatory Agreement dated August 24, 1934, and Schedule of approved rate for special industrial gas service, Schedule of rate applicable to one customer for special industrial summer dump gas, Schedule of rate to Fitzsimons General Hospital for gas for domestic use, which provide for the sale to Public Service Company of Colorado of all the natural gas requisite to supply consumers in Denver, Colorado, and its environs, and for use in its own power plants, under the terms and conditions set forth therein.

This Agreement, made and entered into this third day of January, A. D. 1928, by and between COLORADO INTERSTATE GAS COMPANY, a corporation organized and existing under the laws of the State of Delaware, hereinafter called the VENDOR, party of the first part, and PUBLIC SERVICE COMPANY OF COLORADO, a Colorado corporation, hereinafter called the VENDEE, party of the second part;

WHEREAS, the Vendor desires to sell and deliver to the Vendee and the Vendee desires to purchase and receive from the Vendor natural gas as hereinafter provided; and

WHEREAS, the Vendor is about to expend sums in excess of Twenty Million Dollars (\$20,000,000.) to prepare and equip itself to make deliveries of natural gas as hereinafter provided;

NOW, THEREFORE, THIS AGREEMENT WITNESSETH: That the parties hereto, in consideration of the covenants and payments herein set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the other, the receipt of which is hereby acknowledged, have mutually covenanted and agreed, and do hereby mutually covenant and agree as follows:

FIRST: The Vendor agrees to sell and deliver and the Vendee agrees to purchase, take and pay for:

(a) All of the natural gas requisite for the supply of the domestic consumers in the City of Denver, Colorado, and its environs now or hereafter connected to and served with gas from the pipe lines of the Vendee;

(b) Such amounts of natural gas as may be requisite to fulfill contracts made with the consent and approval of the Vendor by the Vendee for the sale of natural gas to consumers other than domestic consumers; and

(c) Such amounts of natural gas as the Vendee may desire for use in its power plant or plants, which amounts, if desired upon terms and conditions other than those applying to natural gas for domestic use hereunder, are deliverable only with the consent and approval of the Vendor;

provided, however, that the Vendor shall not be obligated to sell and deliver natural gas in excess of the amount it has currently available for delivery, as defined in Articles Tenth and Eleventh hereof.

SECOND: The Vendor agrees to construct and put into operation a pipe line of not less than twenty (20) inches outside diameter of pipe, extending from a site outside the City line of the City of Denver, Colorado, near where

Colorado Boulevard crosses Cherry Creek, which site shall hereafter be selected and purchased by the Vendor for a measuring station and junction with the City pipe line system of the Vendee, thence to a site near the Town of Clayton, Union County, New Mexico. Said site near Clayton, New Mexico, shall be selected and purchased by the Vendor as the location for a junction between the Vendor's pipe line and the pipe line of the Canadian River Gas Company, from which the Vendor receives natural gas for delivery hereunder and the Vendor agrees that it will not sell for consumption in Denver, Colorado, or in any place located in or abutting on the low or intermediate pressure distribution plant maintained by the Vendee at Denver, Colorado, any natural gas transported through said pipe line to any person, firm or corporation other than the Vendee.

THIRD: The Vendee agrees to convert its artificial gas distribution plant supplying the City of Denver, Colorado, and environs, into a natural gas distribution plant and to make such additions and changes as will insure, so far as the capacity of the distribution plant will do so, an adequate and uniform pressure of natural gas throughout in keeping with good practice in cities where natural gas is supplied for house heating, as well as, other domestic purposes, and to so construct the converted plant that a pressure of forty (40) pounds gauge to the square inch at the point of delivery of natural gas by the Vendor hereunder will give uniform and adequate pressure throughout the Vendee's distribution plant. The Vendee shall construct pipes of adequate capacity to connect up its existing distribution plant with the pipe lines of the Vendor, and cooperate in order that the Vendor may install a connection of the Vendor's and Vendee's pipe lines, so that natural gas to be received from the Vendor may be conducted in and throughout the entire system of pipe lines to which any of the customers of the Vendee may be connected.

FOURTH: The place of delivery of the natural gas deliverable hereunder is at said metering and junction site hereinafter called "CHERRY CREEK STATION") near the

City line, and the Vendor shall there furnish, install, operate and maintain at its own expense a regulating and measuring station, properly equipped with orifice meters and recording gauges or other type of meter or meters of standard style, as may be mutually agreed upon, the measurements of which shall fix the total amount of natural gas delivered by the Vendor to the Vendee.

The measuring equipment so installed by the Vendor, together with any buildings erected by it for such equipment, shall be and remain its property. The Vendee shall have access to said metering equipment at all reasonable times but the reading, calibrating and adjusting thereof and changing of charts shall be done only by the employees or agents of the Vendor. Charts and records from such metering equipment shall remain the property of the Vendor. Upon request of the Vendee, the Vendor will submit to the Vendee records and charts from its metering equipment, together with calculations therefrom, for the Vendee's inspection and verification, subject to return by the Vendee, within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file by the Vendor for the mutual use of both parties. At least twice each month, and on dates as near the first and sixteenth of the month as practicable, the Vendor shall calibrate its meter in the presence of representatives of the Vendee and the parties shall jointly observe any adjustments which are made in the meter should such adjustments be necessary, and, if the check meters hereinafter provided for have been installed, the same shall also be calibrated by the Vendee in the presence of representatives of the Vendor and any adjustments jointly observed should such adjustments be necessary. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party and the parties will then cooperate to secure an immediate calibration test and joint observation of any adjustments and the meter shall then be adjusted to accuracy and corrections jointly made for the monthly settlements. Each company shall give to the other company notice of the time of all tests of meters sufficiently in ad-

vance of the holding of the tests so that the other company may conveniently have its representatives present. If, upon any test, any metering equipment is found to be inaccurate by one per cent. ($1\frac{1}{2}$) or more, registrations thereof shall be corrected at the rate of such inaccuracy for any period which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon, then for a period extending back one-half ($\frac{1}{2}$) of the time elapsed since the last date of calibration not exceeding, however, eight (8) days. Following any test, metering equipment found inaccurate shall immediately be restored as closely as possible to a condition of accuracy. If for any reason meters are out of service and/or out of repair so that the amount of natural gas delivered cannot be ascertained or computed from the reading thereof, the natural gas delivered through the period such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available, using the first of the following methods which is feasible:

(a) By correcting the error if the percentage of error is ascertainable by calibration, test or mathematical calculation.

(b) By using the registration of any check meter or meters if installed and accurately registering.

(c) By estimating the quantity of delivery by deliveries during preceding periods under similar conditions when the meter was registering accurately.

The unit of measurement for the natural gas deliverable under this agreement shall be one thousand (1,000) cubic feet of natural gas at a base temperature of sixty (60) degrees Fahrenheit and at a base pressure of eight (8) ounces gauge pressure above twelve and seven-tenths (12.7) pounds absolute atmospheric pressure and the readings and registrations of the metering equipment herein provided for shall be computed into such units. For the purpose of measurement, the natural gas deliverable hereunder shall be assumed to obey Boyle's Law and the average absolute atmospheric (barometric) pressure shall

be assumed to be twelve and seven-tenths (12.7) pounds to the square inch, irrespective of the actual elevation or location of the delivery point above sea level or of variations in such barometric pressure from time to time. If meters other than the orifice type are used, then in computing the readings and registrations of such metering equipment into the units above specified, the physical characteristics of the natural gas which affect such computations shall be given each their due consideration and the determination of such physical characteristics shall be made by standard apparatus and methods and at such time and places as, in accordance with good practice, may be agreed upon from time to time between the delivering company and the receiving company. For meters of the orifice type, the following factors shall be given due consideration, viz:

(a) The temperature of the natural gas flowing through the meter shall be obtained by the use of a recording thermometer so installed that it may properly record the temperature of the natural gas flowing through the meter. The average temperature recorded each twenty-four (24) hour day shall be used in computing measurements.

(b) The specific gravity of the natural gas shall be determined twice monthly by joint tests on days as near the first (1st) and sixteenth (16th) of the month as practicable or as much oftener as is found necessary in practice. The method of test used shall be by Edward's Balance or by such other method as shall be agreed upon by the parties. The regular test at the first (1st) of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries during the first fifteen (15) days of such calendar month or until changed by special test, the special test to be applicable from the day made and through the following days to and including the fifteenth (15th) day of such calendar month. The regular test made on the sixteenth (16th) of the month shall determine the specific gravity to be used in computations for the measurement of natural

gas deliveries in that part of such calendar month commencing with the sixteenth (16th) day and continuing until the end thereof or until changed by special test, the special test to be applicable from the day made through the remaining days in such calendar month.

The Vendee may at its option and at its cost and expense install and operate check metering equipment, but the metering equipment of the Vendor shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by the Vendee, together with any buildings erected by it for such equipment, shall be and remain its property. Whenever the point of delivery as specified herein is on the premises of the Vendor, the Vendor grants to the Vendee the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and/or removal. The check metering equipment and the method of installation of the same shall be of such standard type for the measurement of natural gas as is approved by both companies, but the Vendee shall have the right to replace such equipment at any time with metering equipment of equal grade subject to the approval of the Vendor as to type and method of installation. In the event check metering equipment is installed by the Vendee, the Vendor shall have access to the same at all reasonable times but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by employees or agents of the Vendee. Charts and records from said check metering equipment shall remain the property of the Vendee. Upon request of the Vendor, the Vendee will submit to the Vendor records and charts from said metering equipment, together with calculations therefrom for the Vendor's inspection and verification, subject to return by the Vendor within ten (10) days after receipt thereof.

The Vendor shall render to the Vendee, on or before the fifteenth (15th) day of each month, a statement of the amount of natural gas delivered to the Vendee during the calendar month immediately preceding and of the amount of payment or payments then due from the Vendee to the Vendor therefor at the special prices for natural gas used

or sold for industrial purposes and at the City gate price for the remainder of the natural gas. The statements of deliveries so furnished by the Vendor to the Vendee shall be conclusive upon the parties excepting as to the corrections and/or adjustments then pending, unless exceptions thereto in writing shall be made by the Vendee within ten (10) days after it shall receive such statement.

FIFTH: In order to keep account of the natural gas sold to the Vendee at the City gate, and natural gas sold or used for industrial purposes and paid for at the agreed industrial rate, the Vendee shall, on or before the fifth (5th) day of each calendar month render a statement to the Vendor showing separately the quantity of natural gas used by the Vendee in any of its power plants and the quantity consumed by each of the Vendee's industrial consumers and each of them at the industrial tariff, in the preceding calendar month. The quantities used by the Vendee in its power plants and the quantities consumed by the Vendee's industrial consumers each month shall be paid for by the Vendee to the Vendor at the agreed industrial rates hereinafter set forth and on the basis of measurement applied by the Vendee to such industrial consumers; such quantities, however, for the purpose of ascertaining the volume of natural gas delivered for domestic purposes in each calendar month, shall be computed at a pressure of eight (8) ounces above twelve and seven tenths (12.7) pounds average absolute atmospheric (or barometric) pressure to the square inch, and upon such basis shall be deducted by the Vendor from the total amount of natural gas registered in such calendar month by the Vendor's Cherry Creek Station meter or meters and the remainder shall be considered the amount of natural gas to be paid for to the Vendor at the City gate price hereinafter set forth. In these measurements, it is agreed that no allowance shall be made for leakage or for failure of the Vendee to collect from any of its consumers, or for the Vendee's allowances to consumers because of defective consumers' meters or meter readings, it being the intention of the parties hereto that all natural gas delivered by the Vendor to the Vendee and measured at Cherry Creek Station shall be paid for by the Vendee to the Vendor as above stipu-

lated. The Vendee shall read all meters through which it measures natural gas used or sold for industrial purposes, as near the end of each calendar month as is practicable, and the Vendor's Cherry Creek Station meter or meters shall also be read by the Vendor at the end of each calendar month.

SIXTH: The prices to be paid by the Vendee to the Vendor for natural gas hereunder shall be as follows:

(a) During the entire period of this contract, the City gate price which the Vendee shall pay the Vendor for natural gas purchased and taken shall be forty cents (40c) per thousand cubic feet, except as provided in subparagraphs (b) and (c) of this Article Sixth.

(b) For natural gas purchased by the Vendee from the Vendor for resale under commercial or industrial contracts, which contracts shall have been submitted to and approved by the Vendor, the price payable to the Vendor shall be eighty-five per cent (85%) of the price chargeable by the Vendee to such commercial or industrial consumers under such approved contracts, provided, however, that the price to be paid by the Vendee to the Vendor shall not be more than forty cents (40c) per thousand cubic feet.

(c) For natural gas purchased by the Vendee from the Vendor for use in any of its power plant or plants, the price payable to the Vendor shall be eighty-five percent (85%) of the same price or scale of prices at which the Vendee is selling, under contracts approved by the Vendor, natural gas to an industrial consumer using similar quantities unless the parties may agree from time to time that some other price shall apply.

SEVENTH: The Vendee agrees to pay the Vendor at its office in Colorado Springs, Colorado, on or before the twentieth (20th) of the month, for said natural gas deliveries of the preceding month according to the natural gas measurements and computations and at the prices hereinbefore provided for and billed on said monthly statement. Should the Vendee fail to pay any amount due from it to

the other party when such amount is due, interest thereon shall accrue at six per cent (6%) per annum from the date when such amount was due to the date of payment. If such failure to pay continues for sixty (60) days, then the Vendor may suspend deliveries of natural gas, but the exercise of such right shall be in addition to any and all other remedies otherwise available to the Vendor.

EIGHTH: The Vendee agrees to adopt and use every reasonable effort to secure from time to time in the City of Denver, Colorado, and its environs a schedule of rates which will tend to stimulate sales of natural gas for house heating as well as for cooking, laundry work and hot water heating, and to make every reasonable effort to increase and build up sales of natural gas, and engage and pay for the services of the natural gas department of H. L. Doherty & Company to direct such efforts, doing among other things, to the extent such department deems advisable, the following:

1. Attaching any and all new consumers abutting on existing lines and extending present distribution systems throughout any sections where profitable consumers may be secured.

2. Introduction of and demonstrations of the workings and benefits of proper burners and appliances designed for the use of natural gas. Demonstration and sale of natural gas heating and other natural gas appliances at convenient point or points where public interest may be attracted and secured, and sale of such appliances at fair prices and on reasonable terms of payment, and on installment terms of payment when consumer desires, if found necessary to stimulate sales of gas.

3. Advertising the advantages of natural gas in local papers, distribution of pamphlets to interest and educate the public in the use of natural gas, and the holding of frequent educational campaigns and natural gas demonstrations together with personal solicitations.

4. Making a thorough survey of the commercial and industrial sales possibilities; instituting schedules of rates to attract the major portion of this business;

making extensions of low pressure or city high pressure lines as may be necessary to meet the requirements of these classes of consumers.

5. To make available for the purpose of increasing sales of natural gas the following minimum expenditures for the use of the sales department:

1st year, an amount equal to \$2.00 per consumer then attached to lines.

2nd year, an amount equal to \$1.50 per consumer then attached to lines.

3rd year, an amount equal to \$1.00 per consumer then attached to lines.

4th year, an amount equal to \$.75 per consumer then attached to lines.

5th year, an amount equal to \$.50 per consumer then attached to lines.

NINTH: The Vendee agrees to keep proper books, records and accounts, according to approved methods, so as to reflect accurately and in detail the number of consumers and the quantity of gas sold to each consumer and each class of consumers, and the rates and charges, and the gas, if any, obtained by manufacturing or from sources other than the Vendor, and the Vendor shall have the right at all reasonable times to go upon the property of the Vendee and to make such inspection and investigation of same as may be pertinent to a check up of the Vendee's classification of consumers and gas rights, charges and sales, and this shall include the right to inspect the Vendee's books, accounts, meters and records for such information as may aid in an audit or settlement of accounts between the parties.

The Vendee shall install and maintain at all times during the continuance of this contract accurately registering meters to measure the Vendee's sales of gas at other than domestic rates, and shall make inspection thereof regularly as is good practice in the operation of gas distribution and promptly make such repairs to or changes in meters as may be proper to maintain accurate measurements.

TENTH: The Vendee acknowledges that the production of

natural gas from wells and the transportation thereof over long distances are subject to accident, interruptions, diminution of pressure and failure of supply. The Vendor, however, expressly agrees that it will exercise reasonable diligence and care to avoid any shortage or interruption of supply of natural gas hereunder, but it shall not be liable for any damage or loss that may be occasioned by any shortage or failure, or shortage of production of gas wells or fields, breakage or accident to lines or equipment, fires, strikes, riots, floods and other acts of whatever nature, due to causes beyond its control and interruptions by governmental or court orders. The Vendor shall only be bound to furnish natural gas to the full extent that it may be able to do so through the exercise of reasonable care and diligence in the procuring of natural gas from its gas purchase contracts, and in the transportation thereof through its lines to the point of delivery and at such pressure and for such period of time as natural gas is available.

It is expressly agreed by the Vendee that the Vendor may interrupt its service hereunder for the purpose of making necessary alterations and repairs to its pipe lines and compressing station equipment and machinery, but only for such time as may be reasonable or unavoidable, and the Vendor shall give to the Vendee except in case of an emergency, reasonable notice of its intention so to do, and shall endeavor to arrange such interruption so as to inconvenience the Vendee and its consumers, as little as possible.

Nothing herein contained shall in any way abridge the right of the Vendor at any time to sell, transport and deliver natural gas to others than the Vendee, or restrict or reserve the Vendor's properties, or any part of them, for the exclusive benefit of this contract, but the Vendor shall not give other contracts any priority or preference above the obligations hereunder. It is agreed that in case of shortage, either temporarily or permanently, of natural gas and necessity for curtailment of service to any classes of consumers, the demands of domestic consumers of the Vendor, the Vendee and/or of other distributing customers to which the Vendor may sell natural gas, are to be preferred over service to industrial consumers and of the amount remaining deliveries, if any, under the provisions of sub-paragraph

(b) of Article First hereof, for the Vendee's industrial consumers shall be such part as the requirements of its industrial consumers bear to the requirements of industrial consumers of the Vendor, the Vendee and of other distributing customers to which the Vendor may sell natural gas: provided, however, that such domestic consumers' preference and such right to receive natural gas for industrial users shall not be exercised so as to deprive the Colorado Fuel & Iron Company of the volume of natural gas needed to complete open hearth heats then in jeopardy, and to keep its furnaces warm during extreme domestic demand upon the Vendor's pipe line, or so as to deprive any other industrial or commercial consumer which requires a small proportion of its normal demand to prevent damage to its appliances.

ELEVENTH: It is understood that the Vendor purposes to obtain its natural gas, for delivery hereunder, by purchase from the Canadian River Gas Company, which owns or holds under lease or contract large reserves of natural gas in the Counties of Hartley, Oldham, Moore, Potter, Carson and Hutchinson, Texas, in what is known as the Amarillo Gas Field, and a copy of the contract between the Vendor and the said Canadian River Gas Company is attached hereto, and the Vendor shall not be required to supply hereunder natural gas from any other source, but the Vendor shall have the right, if it so elects, to supply hereunder natural gas from other sources provided such other natural gas is not substantially inferior in quality to the natural gas then being produced from the said Amarillo Gas Field. The Vendor shall not renounce the right it has under and by virtue of its contract with the Canadian River Gas Company, copy of which is attached hereto, to receive natural gas from any of the gas leaseholds, gas rights, gas contracts or gas estates described in Exhibit "A" attached to the contract between the Canadian River Gas Company and the Amarillo Oil Company, a copy of which contract is annexed as Exhibit "B" to the contract between the Vendor and the Canadian River Gas Company, a copy of which is annexed hereto, unless the Vendor shall first deliver to the Vendee a statement in writing, under the corporate seal of the Vendor that the gas leaseholds, gas rights, gas contracts, or gas estates, the subject of such renunciation, by reason of the Vendor's own

operations or explorations or the operations or explorations of others, are believed by the Vendor to be without substantial value, or until the consent of the Vendee to such renunciation shall have been obtained, provided, however, the Vendor shall have the unrestricted right to renounce, surrender or waive any right it has under and by virtue of its said contract with the Canadian River Gas Company, copy of which is attached hereto, to receive gas produced from lands described in the certain option agreement dated the 17th day of May 1927 between the United States of America and the Amarillo Oil Company and a certain other option agreement dated the 23rd day of March 1928 between the United States of America and the Amarillo Oil Company, in the event, and only in the event, the United States of America exercises its rights to purchase the gas leaseholds, gas rights or gas estates described in said agreements.

If the natural gas supplied by the Vendor to the Vendee contains a gross heating value of less than eight hundred (800) B. t. u.'s per cubic foot at Denver, Colorado, the Vendee, on giving ten (10) days' written notice to the Vendor, shall have the right to suspend taking natural gas hereunder until such time as the Vendor is prepared to supply the Vendee with natural gas containing a gross heating value of not less than eight hundred (800) B. t. u.'s per cubic foot. If the Vendor shall fail to give to the Vendee, within sixty (60) days from the date on which the Vendee gives such notice, written notice that the Vendor is taking or causing to be taken such steps as will in the sole opinion of the Vendor enable it to resume within one hundred eighty (180) days after the giving of such notice, the delivery of natural gas containing a gross heating value of not less than eight hundred (800) B. t. u.'s per cubic foot at Denver, Colorado, the Vendee shall have the right to terminate this contract and all the obligations of both parties hereunder, excepting only the obligation to pay for natural gas already delivered, and if, after having given notice that it is taking or causing to be taken such steps as will in its opinion enable it to deliver natural gas containing a gross heating value of not less than eight hundred (800) B. t. u.'s per cubic foot at Denver, Colorado, the Vendor shall fail to resume, within one hundred eighty (180) days after the giving of such notice, the de-

livery of natural gas containing a gross heating value of not less than eight hundred (800) B. t. u.'s per cubic foot at Denver, Colorado, the Vendee shall then have the right to terminate this contract and all the obligations of both parties hereunder, excepting only the obligation to pay for natural gas already delivered.

TWELFTH: It is mutually understood and agreed that the requirements of domestic consumers of the Vendee shall be fully supplied from the natural gas delivered hereunder in preference to consumers purchasing natural gas for industrial or commercial purposes, and that the Vendor can be required to supply natural gas to be used for industrial or commercial purposes only where the same is sold under contracts which have first been submitted and approved in writing by the Vendor and which expressly provide that natural gas will be supplied thereunder only insofar as the same is not necessary to meet the requirements of domestic consumers supplied by the Vendor, the Vendee and/or other distributing customers to which the Vendor may sell or supply natural gas.

If for any period of time during the term hereof, the Vendor shall be unable or fail to deliver the full amount of natural gas required by the Vendee and deliverable hereunder, then the Vendee shall have the right, during such time as the Vendor so fails to furnish the required amount of natural gas, to purchase or otherwise obtain, at its own expense, natural gas from any available source or manufacture gas to supply such portion of the requirements of its consumers as is not obtainable from the Vendor. Any gas manufactured to make up the Vendee's requirements which the Vendor is failing to supply shall be deemed to be supplied to domestic consumers and the volume deducted from the current volume for which the Vendee is to pay the Vendor at the City gate price for domestic consumption, but any natural gas obtained from sources other than the Vendor to make up such requirements shall be deemed to be supplied to the consumers using gas for industrial or commercial purposes and paying the lowest prices and only the excess, if any, of such natural gas so obtained from sources other than the Vendor over the total gas supplied for industrial or commercial purposes shall be deemed to be gas

supplied for domestic consumption, displacing *pro tanto* the natural gas supplied by the Vendor at the City gate price. If, for any period of time during the term hereof, the Vendor is unable or fails to deliver the full amount of natural gas required by the Vendee hereunder, and the Vendee shall manufacture gas to supply any portion of the requirements of its customers which would have been supplied with natural gas received hereunder had such supply been sufficient, then at the option of the Vendee the amount of natural gas to be sold and delivered hereunder by the Vendor and purchased and received by the Vendee shall thereafter be reduced by the amount of gas manufactured by the Vendee to supply its customers, during such period of shortage, which would have been supplied with natural gas sold hereunder if such natural gas had been available.

THIRTEENTH: The natural gas deliverable hereunder shall be natural gas as produced in its natural state from the wells, except that the Vendor may extract or permit the extraction of any helium content and the natural gas gasoline from said natural gas, but shall not subject its natural gas nor permit its natural gas to be subjected to any treatment in the extraction of natural gas gasoline or otherwise, which shall change the chemical composition of any of its component parts, or which will dilute it. The Vendor is to tender delivery to the Vendee only of natural gas which is commercial in quality and condition.

FOURTEENTH: This contract shall continue for twenty (20) years from the day the Vendor is ready to begin deliveries of natural gas hereunder. It is provided, however, that for such time after the expiration on February 8th, 1947, of the Vendee's existing franchise to distribute natural gas in the City of Denver, Colorado, as the Vendee is prevented from distributing natural gas in the City of Denver, Colorado, and charging therefor rates substantially equal to those established in its existing franchise, because it does not have a franchise right or other right to do so, the Vendee shall have the right to suspend taking natural gas hereunder. The Vendee agrees to use its best efforts to extend or renew its existing franchise or to procure a new franchise in place thereof or to procure such other right as will enable it to distribute natural gas in Denver, Colorado, after the expira-

tion, on February 8th, 1947, of its present franchise, and if the Vendee is able to procure a franchise or other suitable right to distribute natural gas in Denver, Colorado, after February 8th, 1947, when it is not required to take natural gas hereunder and after twenty (20) years after the day the Vendor is ready to begin deliveries of natural gas hereunder, it shall offer to the Vendor the first opportunity to supply natural gas at the prices and on the terms at which the Vendee is then able to secure its requirements of natural gas from any other responsible party. The Vendor agrees to use diligent effort to complete its pipe line to the extent necessary to be ready to supply natural gas hereunder to the Vendee on or before the first day of July, 1928, and deliveries of natural gas hereunder shall commence on that day, or as soon thereafter as the Vendor's pipe line is ready to operate, and agrees to give the Vendee at least three (3) months' notice of the day it will begin deliveries. The Vendee agrees to be ready to receive and distribute natural gas at the maturity of said notice, whereupon the purchase and sales of natural gas hereunder shall become effective.

FIFTEENTH: In the event of either party being rendered unable wholly or in part by *force majeure* to carry out its obligations under this contract other than to make payments or amounts due hereunder, it is agreed that on such party giving notice and full particulars of such *force majeure* in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such *force majeure*, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "*force majeure*" as employed herein shall mean acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts arrests and restraint of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe freezing of wells or lines of pipe, sudden partial or entire failure of natural gas wells, and any other cause, whether of the kind herein enumerated or

otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

SIXTEENTH: All notices to be given hereunder by the Vendor to the Vendee shall be given by registered mail or by delivering the same to the Vendee at its office at Denver, Colorado, or at such other office as may be hereafter designated by the Vendee for the purpose, and all notices to be given by the Vendee to the Vendor shall be given by registered mail or by delivering the same to the Vendor at its office at Colorado Springs, Colorado, or at such office as may be hereafter designated by the Vendor for the purpose.

SEVENTEENTH: This agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. Whenever any corporation is referred to herein, such reference shall be deemed to include the successors and assigns of any such corporation.

EIGHTEENTH: In view of the possibility of natural gas being found along the pipe line of the Vendor or within piping distance of the City of Denver, Colorado, and its environs, it is agreed that it may be desirable to arrange for purchase of such natural gas by the Vendor and the marketing thereof hereunder while the natural gas of the Canadian River Gas Company is reserved for the future, and the Vendee agrees to use its best efforts to cooperate with the Vendor in the disposal of such natural gas. Upon failure of the Vendor to purchase or dispose of any such natural gas or to participate in the purchase or disposal thereof, then the Vendee shall have the right to purchase and market that part of such natural gas which, if such purchase were not made, would be offered for sale to its customers. Otherwise during the continuance of this agreement the Vendee is to purchase all of its natural gas requirements for Denver, Colorado, and its environs from the Vendor.

NINETEENTH: As between the parties hereto, the Vendor shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby until the same shall have been delivered to the Vendee at Cherry Creek Measuring Station, after which delivery the Vendee shall be deemed to be in exclusive

control and possession thereof and responsible for any such injury or damage.

TWENTIETH: It is covenanted and agreed that if either party shall fail to perform any of the covenants or obligations imposed upon it under and by virtue of this contract, then in such event the other party may at its option terminate this contract by proceeding as follows: The party not in default shall cause a written notice to be served on the party in default, stating specifically the cause for terminating this contract and declaring it to be the intention of the party giving the notice to terminate the same; thereupon the party in default shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating the contract, and if within said period of thirty (30) days the party in default does so remove and remedy said cause or causes and fully indemnify the party not in default for any and all consequences of such breach, then such notice shall be withdrawn and this agreement shall continue in full force and effect. In case the party in default does not so remedy and remove the cause or causes and/or does not indemnify the party giving the notice for any and all consequences of such breach within said period of thirty (30) days, then this agreement shall become null and void from and after the expiration of said period. Any cancellation of this agreement pursuant to the provisions of this Article shall be without prejudice to the party not in default to collect any amounts then due to it and without waiver of any other remedy to which the party not in default may be entitled for violation of this contract.

TWENTY-FIRST: The Vendor agrees to maintain at its Cherry Creek Station a pressure of natural gas in its pipe line of not less than forty (40) pounds gauge to the square inch, when and so long as it is able to secure, as herein provided, from the Canadian River Gas Company sufficient natural gas to meet the current requirements of the Vendee, and in complying with this covenant, the Vendor agrees to install and operate compression facilities and operate its pipe line and use the storage capacity thereof in accordance with good gas pipe line practice, in order to meet the varying demands of the Vendee's market hereunder.

It is mutually understood and agreed that the Vendee shall keep the Vendor at all times fully informed of all facts tending to show the amount of natural gas which will be necessary from time to time to supply its requirements hereunder.

In Witness Whereof, the parties hereto have caused this agreement to be duly signed by their respective officers the day and year first above written.

COLORADO INTERSTATE GAS COMPANY

[Seal]

By CHRISTY PAYNE, President.

Attest:

E. E. DUVALL, Secretary.

PUBLIC SERVICE COMPANY OF COLORADO

[Seal]

By THOS. L. CARTER, Vice-President.

E. E. McWHINEY, Asst. Secretary.

EXHIBIT NO. 7-H.

Rate Schedule F. P. C. No. 2

Exhibits and Supplements

Filed by

Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold To
The Pueblo Gas and Fuel Company,
Pueblo, Colorado.

This schedule consists of Agreement dated January 3, 1928, Schedule of approved rate available for special industrial gas service, Schedule of rate approved for Summit Pressed Brick Company, and Amendatory Agreement dated August 24, 1934, which provide for the sale to The Pueblo Gas and Fuel Company of all the natural gas requisite to supply consumers in Pueblo, Colorado, and its environs, under the terms and conditions set forth therein.

This Agreement, made and entered into this third day of January A. D. 1928, by and between the COLORADO INTERSTATE GAS COMPANY, a corporation organized and existing under the laws of the State of Delaware, (hereinafter called the "VENDOR"), party of the first part, and THE PUEBLO GAS

AND FUEL COMPANY, a corporation organized and existing under the laws of the State of Colorado, (hereinafter called the "Vendee"), party of the second part.

WHEREAS, the Vendor desires to sell and deliver to the Vendee and the Vendee desires to purchase and receive from the Vendor natural gas as hereinafter provided, and

WHEREAS, the Vendor is about to expend sums in excess of Twenty Million Dollars (\$20,000,000) to prepare and equip itself to make deliveries of natural gas as hereinafter provided;

NOW, THEREFORE, THIS AGREEMENT WITNESSETH: That the parties hereto, in consideration of the covenants and payments herein set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the other, the receipt of which is hereby acknowledged, have mutually covenanted and agreed and do hereby mutually covenant and agree as follows:

FIRST: The Vendor agrees to sell and deliver and the Vendee agrees to purchase, take and pay for:

(a) All of the natural gas requisite for the supply of the domestic consumers in the City of Pueblo, Colorado, and its environs now or hereafter connected to and served with gas from the pipe lines of the Vendee; and

(b) Such amounts of natural gas as may be requisite to fulfill contracts made with the consent and approval of the Vendor by the Vendee for the sale of natural gas to consumers other than domestic consumers;

provided, however, that the Vendor shall not be obligated to sell and deliver natural gas in excess of the amount it has currently available for delivery as defined in Articles Tenth and Eleventh hereof.

SECOND: The Vendor agrees to construct and put into operation a pipe line of not less than twenty-two (22) inches outside diameter of pipe from a site near Clayton, New Mexico, which shall be selected and purchased by the Vendor as the location for a junction between the Vendor's pipe line and the pipe line of the Canadian River Gas Company, from which the Vendor receives natural gas for delivery hereunder, to its compressing station site near the Arkansas

River about ten (10) miles east of Pueblo, Colorado, and a pipe line of not less than twelve (12) inches outside diameter of pipe extending from said compressing station located on a site consisting of Lots Nos. 156, 157, 158, 159 and 160 of Frances Subdivision, being part of Section 9, Township 21 South, Range 64 West of the Sixth Principal Meridian; according to the recorded plat of said Subdivision, in Pueblo, County, which site (hereinafter sometimes called the "PUEBLO MEASURING STATTON") shall be selected and purchased by the Vendor for a measuring station and junction with the City pipe line system of the Vendee and the Vendor agrees that it will not sell for consumption in Pueblo, Colorado, or in any place located in or abutting on the area served by the low or intermediate pressure distribution plant maintained by the Vendee at Pueblo, Colorado any natural gas transported through said pipe line to any person, firm or corporation other than the Vendee and other than to the Colorado Fuel & Iron Company under a contract contained in the Colorado Fuel & Iron Company's offer dated February 19 1927 to Ford, Bacon & Davis, Inc. accepted by Ford, Bacon & Davis, Inc. in two letters of acceptance to the Colorado Fuel & Iron Company dated February 2, 1928 and May 1, 1928 and under any agreement which may be hereafter made for the sale of gas to the Colorado Fuel & Iron Company for its own industrial purposes.

THIRD: The Vendee agrees to convert its artificial gas distribution plant supplying the City of Pueblo, Colorado, and its environs into a natural gas distribution plant and to make such additions and changes as will insure, so far as the capacity of the distribution plant will do so, an adequate and uniform pressure of natural gas throughout in keeping with good practice in cities where natural gas is supplied for house heating as well as other domestic purposes, and to so construct the converted plant that a pressure of forty (40) pounds gauge to the square inch at the point of delivery of natural gas by the Vendor hereunder will give uniform and adequate pressure throughout the Vendee's distribution plant. The Vendee shall construct pipes of adequate capacity to connect up its existing distribution plant with the pipe lines of the Vendor and cooperate in order that the Vendor may install a connection of the Vendor's and the Vendee's pipe lines so that the natural gas to be received from the

Vendor may be conducted in and throughout the entire system of pipe lines to which any of the customers of the Vendee may be connected.

FOURTH: The place of delivery of the natural gas deliverable hereunder shall be at the metering and junction site called the Pueblo Measuring Station and the Vendor shall there furnish, install, operate and maintain at its own expense and risk a measuring station properly equipped with orifice meters and recording gauges, or other type of meter or meters of standard style as may be mutually agreed upon, the measurements of which shall fix the total amount of natural gas delivered by the Vendor to the Vendee.

The measuring equipment so installed by the Vendor, together with any buildings erected by it for such equipment, shall be and remain its property. The Vendee shall have access to said metering equipment at all reasonable times but the reading, calibrating and adjusting thereof and changing of charts shall be done only by the employees or agents of the Vendor.

Charts and records from such metering equipment shall remain the property of the Vendor. Upon request of the Vendee, the Vendor will submit to the Vendee records and charts from its metering equipment together with calculations therefrom for the Vendee's inspection and verification, subject to return by the Vendee within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file by the Vendor for the mutual use of both parties. At least twice each month and on days as near the first and sixteenth of the month as practicable, the Vendor shall calibrate its meter in the presence of representatives of the Vendee and the parties shall jointly observe any adjustments which are made in the meter should such adjustments be necessary and if the check meters hereinafter provided for shall have been installed the same shall also be calibrated by the Vendee in the presence of representatives of the Vendor and any adjustments jointly observed should such adjustments be necessary. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party and the parties will then

cooperate to secure an immediate calibration test and joint observation of any adjustments, and the meter shall then be adjusted to accuracy and corrections jointly made for the monthly settlements. Each party shall give to the other party copies of the time of all tests of meters sufficiently in advance of the holdings of the tests so that the other party may conveniently have its representatives present. If upon any test any metering equipment is found to be inaccurate by one per cent. (1%) or more, registrations thereof shall be corrected at the rate of such inaccuracy for any period which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon then for a period extending back one-half ($1\frac{1}{2}$) of the time elapsed since the last date of calibration, not exceeding, however, eight (8) days. Following any test, metering equipment found inaccurate shall immediately be restored as closely as possible to a condition of accuracy. If for any reason meters are out of service and/or out of repair so that the amount of natural gas delivered cannot be ascertained or computed from the reading thereof, the natural gas delivered through the period such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available, using the first of the following methods which is feasible:

(a) By correcting the error if the percentage of error is ascertainable by calibration, test of mathematical calculation.

(b) By using the registration of any check meter or meter if installed and accurately registering.

(c) By estimating the quantity of delivery by deliveries during the preceding periods under similar conditions when the meter was registering accurately.

The unit of measurement for the natural gas deliverable under this agreement shall be one thousand (1,000) cubic feet of natural gas at a base temperature of sixty (60) degrees Fahrenheit and at a base pressure of eight (8) ounces gauge pressure above twelve and seven-tenths (12.7) pounds absolute atmospheric pressure, and the readings and registrations of the metering equipment herein provided for shall be computed into such units. For the purpose of measure-

ment, the natural gas deliverable hereunder shall be assumed to obey Boyle's Law and the average absolute atmospheric (barometric) pressure shall be assumed to be twelve and seven-tenths (12.7) pounds to the square inch, irrespective of the actual elevation or location of the delivery point above sea level or of variations in such barometric pressure from time to time. If meters other than the orifice type are used, then in computing the readings and registrations of such metering equipment into the units above specified, the physical characteristics of the natural gas which affect such computation shall be given each their due consideration and the determination of such physical characteristics shall be made by standard apparatus and methods and at such time and places as, in accordance with good practice, may be agreed upon from time to time between the delivering company and the receiving company. For meters of the orifice type, the following factors shall be given their due consideration, viz:

(a) The temperature of the natural gas flowing through the meter shall be obtained by the use of a recording thermometer so installed that it may properly record the temperature of the natural gas flowing through the meter. The average temperature recorded each twenty-four (24) hour day shall be used in computing measurements.

(b) The specific gravity of the natural gas shall be determined twice monthly by joint test on days as near the first and sixteenth of the month as practicable or as much oftener as is found necessary in practice. The method of test used shall be by Edward's Balance or by such other method as shall be agreed upon by the parties. The regular test at the first of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries during the first fifteen (15) days of such calendar month or until changed by special test, the special test to be applicable from the day made and through the following days to and including the fifteenth day of such calendar month. The regular test made on the sixteenth of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries in

that part of such calendar month commencing with the sixteenth day and continuing until the end thereof or until changed by special test, the special test to be applicable from the day made through the remaining days of such calendar month.

The Vendee may at its option and at its cost and expense install and operate check metering equipment, but the metering equipment of the Vendor shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by the Vendee, together with any buildings erected by it for such equipment, shall be and remain its property. Whenever the point of delivery as specified herein is on the premises of the Vendor, the Vendor grants to the Vendee the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair, and/or removal. The check metering equipment and the method of installation of the same shall be of such standard type for the measurement of natural gas as is approved by both companies, but the Vendee shall have the right to replace such metering equipment at any time with metering equipment of equal grade subject to the approval of the Vendor as to type and method of installation. In the event check metering equipment is installed by the Vendee, the Vendor shall have access to the same at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by employees or agents of the Vendee. Charts and records from said check metering equipment shall remain the property of the Vendee. Upon the request of the Vendor, the Vendee will submit to the Vendor records and charts from said metering equipment together with calculations therefrom for the Vendor's inspection and verification, subject to return by the Vendor within ten (10) days after receipt thereof.

The Vendor shall render to the Vendee, on or before the fifteenth day of each month, a statement of the amount of natural gas delivered to the Vendee during the calendar month immediately preceding and of the amount of payment or payments then due from the Vendee to the Vendor therefor at the special prices for natural gas sold or used for industrial purposes and at the City gate price for the re-

mainder of the natural gas. The statement of deliveries so furnished by the Vendor to the Vendee shall be conclusive upon the parties except as to the corrections and/or adjustments then pending, unless exceptions thereto in writing shall be made by the Vendee within ten (10) days after it shall receive such statement.

FIFTH: In order to keep account of the natural gas sold to the Vendee at the City gate rate and the natural gas sold for industrial purposes and paid for at the agreed industrial rate, the Vendee shall, on or before the fifth day of each calendar month, render a statement to the Vendor showing separately the quantity of natural gas consumed by each of the Vendee's industrial consumers and each of them at the industrial tariff in the preceding calendar month. The quantities of natural gas consumed by the Vendee's industrial consumers in each month shall be paid for by the Vendee to the Vendor at the agreed industrial rates hereinafter set forth and on the basis of measurements applied by the Vendee to such industrial customers, such quantities, however, for the purpose of ascertaining the volume of natural gas delivered for domestic purposes in each calendar month shall be computed at the pressure of eight (8) ounces above twelve and seven-tenths (12.7) pounds average absolute atmospheric (or barometric) pressure to the square inch, and upon such basis shall be deducted by the Vendor from the total amount of natural gas registered in such calendar months by the Vendor's Pueblo Measuring Station meter or meters, and the remainder shall be considered the amount of natural gas to be paid for by the Vendor at the City gate price hereinafter set forth. In these measurements, it is agreed that no allowance shall be made for leakage or for failure of the Vendee to collect from any of its consumers or for the Vendee's allowances to consumers because of defective consumers' meters or meter readings, it being the intention of the parties hereto that all natural gas delivered by the Vendor to the Vendee and measured at the Pueblo Measuring Station shall be paid for by the Vendee to the Vendor as above stipulated. The Vendee shall read all meters through which it measures natural gas used or sold for industrial purposes as near the end of each calendar month as is practicable and the Vendor's Pueblo Measuring

Station meter or meters shall be read by the Vendor at the end of each calendar month.

SIXTH: The prices to be paid by the Vendee to the Vendor for natural gas hereunder shall be as follows:

(a) During the entire period of this contract, the City gate price at which the Vendee shall pay the Vendor for natural gas purchased and taken shall be forty cents (40c) per thousand cubic feet except as provided in subparagraph (b) of this Article Sixth.

(b) For natural gas purchased by the Vendee from the Vendor for resale under commercial or industrial contracts, which contracts shall have been submitted to and approved by the Vendor, the price payable to the Vendor shall be eighty-five per cent. (85%) of the price chargeable by the Vendee to such commercial or industrial consumers under such approved contract, provided, however, that the price to be paid by the Vendee to the Vendor shall not be more than forty cents (40c) per thousand cubic feet.

SEVENTH: The Vendee agrees to pay the Vendor at its office in Colorado Springs, Colorado, on or before the twentieth of the month for said natural gas deliveries of the preceding month according to the natural gas measurements and computations and at the prices hereinbefore provided for and billed on said monthly statements. Should the Vendee fail to pay any amount due from it to the other party when such amount is due, interest thereon shall accrue at six per cent. (6%) per annum from the date when such amount was due to the date of payment. If such failure to pay continues for sixty (60) days, then the Vendor may suspend deliveries of natural gas, but the exercise of such right shall be in addition to any and all remedies otherwise available to the Vendor.

EIGHTH: The Vendee agrees to adopt and use every reasonable effort to secure from time to time in the City of Pueblo, Colorado, and its environs a schedule of rates which will tend to stimulate sales of natural gas for house heating as well as for cooking, laundry work and hot water heating and to make every reasonable effort to increase and build up sales of natural gas, and engage and pay for the services

of the Natural Gas Department of H. L. Doherty & Company to direct such efforts, doing among other things, to the extent such Department deems advisable, the following:

(1) Attaching any and all new customers abutting on existing lines and extending present distribution systems throughout any section where profitable consumers may be secured.

(2) Introduction of and demonstrations of the workings and benefits of proper burners and appliances designed for the use of natural gas. Demonstration and sale of natural gas heating and other natural gas appliances at convenient point or points where public interest may be attracted and secured, and sale of such appliances at fair prices and on reasonable terms of payment and/or installment terms of payment, when consumer desires, if found necessary to stimulate sales of natural gas.

(3) Advertising the advantages of natural gas in local papers, demonstration of automobiles to interest and educate the public in the use of natural gas, and the holding of frequent educational campaigns and natural gas demonstrations, together with personal solicitations.

(4) Making a thorough survey of the commercial and industrial sales possibilities, instituting schedules of rates to attract the major portion of this business, making extensions of low pressure or City high pressure lines as may be necessary to meet the requirements of these classes of consumers.

(5) To make available for the purpose of increasing sales of natural gas the following minimum expenditures for the use of the sales department:

First year: an amount equal to \$2.00 per customer then attached to lines:

Second year: an amount equal to \$1.50 per customer then attached to lines:

Third year: an amount equal to \$1.00 per customer then attached to lines:

Fourth year: an amount equal to \$0.75 per customer then attached to lines:

Fifth year: an amount equal to \$0.50 per customer then attached to lines:

NINTH: The Vendee agrees to keep proper books, records and accounts according to approved methods so as to reflect accurately and in detail the number of consumers, the quantity of gas sold to each consumer, and each class of consumers and the rates and charges and the gas, if any, obtained by manufacturing or from sources other than the Vendor but the Vendor shall have the right at all reasonable times to go upon the property of the Vendee and to make such inspection and investigation of the same as may be pertinent to a check-up of the Vendee's classification of consumers and gas rates, charges and sales, and this shall include the right to inspect the Vendee's books, accounts, meters and records for such information as may aid in the audit or settlement of the accounts between the parties.

The Vendee shall install and maintain at all times during the continuance of this contract accurately registering meters to measure the Vendee's sales of gas at other than domestic rates and shall make inspection thereof regularly as is good practice in the operation of gas distribution and promptly make such repairs to or changes in meters as may be proper to maintain accurate measurements.

TENTH: The Vendee acknowledges that the production of natural gas from wells and the transportation thereof over long distances are subject to accident, interruptions, diminution of pressure and failure of supply. The Vendor, however, expressly agrees that it will exercise reasonable diligence and care to avoid any shortage or interruption of supply of natural gas hereunder, but it shall not be liable for any damage or loss that may be occasioned by any shortage or failure or shortage of production of gas wells or fields, breakage or accident to lines or equipment, fires, strikes, riots, floods and other acts of whatever nature due to causes beyond its control and interruptions by Governmental or court orders. The Vendor shall only be bound to furnish natural gas to the full extent that it may be able to do so through the exercise of reasonable care and diligence in procuring natural gas from its gas purchase contracts and in the transportation thereof through its lines to the point of delivery and at such pressure and for such period of time as natural gas is available.

It is expressly agreed by the Vendee that the Vendor may interrupt its services hereunder for the purpose of making necessary alterations and repairs to its pipe lines and compressing station equipment and machinery but only for such time as may be reasonable or unavoidable, and the Vendor shall give to the Vendee, except in case of emergency, reasonable notice of its intention so to do and shall endeavor to arrange such interruption so as to inconvenience the Vendee and its consumers as little as possible.

Nothing herein contained shall in any way abridge the right of the Vendor at any time to sell, transport and deliver natural gas to others than the Vendee or restrict or reserve the Vendor's properties or any part of them for the exclusive benefit of this contract, but the Vendor shall not give other contracts any priority or preference above the obligations hereunder. It is agreed that in case of shortage, either temporarily or permanently of natural gas and necessity for curtailment of service to any class of consumers, the demands of domestic consumers of the Vendor, the Vendee and or of other distributing customers to which the Vendor may sell natural gas, are to be preferred over service to industrial consumers, and of the amount remaining, deliveries, if any, under the provisions of sub-paragraph (b) of Article First hereof for the Vendee's industrial consumers shall be such part as the requirements of its industrial consumers bear to the requirements of industrial consumers of the Vendor, the Vendee and of other distributing customers to which the Vendor may sell natural gas, provided, however, that such domestic consumers' preferences and such right to receive natural gas for industrial users shall not be exercised so as to deprive the Colorado Fuel & Iron Company of the volume of natural gas needed to complete open hearth heats then in jeopardy and to keep its furnaces warm during extreme domestic demand upon the Vendor's pipe lines, or so as to deprive any other industrial or commercial consumer which requires a small proportion of its normal demand to prevent damage to its appliances.

ELEVENTH: It is understood that the Vendor proposes to obtain its natural gas for delivery hereunder by purchase from the Canadian River Gas Company which owns or holds under lease or contract large reserves of natural gas in the

Counties of Hartley, Oldham, Moore, Potter, Carson and Hutchinson, Texas, in what is known as the Amarillo Gas Field and a copy of the contract between the Vendor and said Canadian River Gas Company is attached hereto, and the Vendor shall not be required to supply hereunder natural gas from any other source, but the Vendor shall have the right, if it so elects, to supply hereunder natural gas from other sources, provided such other natural gas is not substantially inferior in quality to the natural gas then being produced from the said Amarillo Gas Field. The Vendor shall have the unrestricted right to renounce, surrender or waive any right it has under and by virtue of its said contract with the Canadian River Gas Company, copy of which is attached hereto, to receive gas from the lands described in said contract.

If the natural gas supplied by the Vendor to the Vendee contains a gross heating value of less than eight hundred (800) B.t.u.'s per cubic foot at Pueblo, Colorado, the Vendee, on giving ten (10) days' written notice to the Vendor, shall have the right to suspend taking natural gas hereunder until such time as the Vendor is prepared to supply the Vendee with natural gas containing a gross heating value of not less than eight hundred (800) B.t.u.'s per cubic foot. If the Vendor shall fail to give the Vendee, within sixty (60) days from the date on which the Vendee gives such notice, written notice that the Vendor is taking or causing to be taken such steps as will in the sole opinion of the Vendor enable it to resume, within one hundred eighty (180) days after the giving of such notice, the delivery of natural gas containing a gross heating value of not less than eight hundred (800) B.t.u.'s per cubic foot at Pueblo, Colorado, the Vendee shall have the right to terminate this contract and all the obligations of both parties hereunder, excepting only the obligation to pay for natural gas already delivered, and if after having given such notice that it is taking or causing to be taken such steps as will in its opinion enable it to deliver natural gas containing a gross heating value of not less than eight hundred (800) B.t.u.'s per cubic foot at Pueblo, Colorado, the Vendor shall fail to resume, within one hundred eighty (180) days after the giving of such notice, the delivery of natural gas containing a gross heating value of not less than eight hundred (800) B.t.u.'s per cubic foot at

Pueblo, Colorado, the Vendee shall then have the right to terminate this contract and all the obligations of both parties hereunder, excepting only the obligation to pay for natural gas already delivered.

TWELFTH: It is mutually understood and agreed that the requirements of domestic consumers of the Vendee shall be fully supplied with natural gas delivered hereunder in preference to consumers purchasing natural gas for industrial or commercial purposes and that the Vendor can be required to supply natural gas to be used for industrial or commercial purposes only where the same is held under contracts which have first been submitted to and approved in writing by the Vendor and which expressly provide that natural gas will be supplied hereunder only insofar as the same is not necessary to meet the requirements of domestic consumers supplied by the Vendor, the Vendee and/or other industrial customers to which the Vendor may sell or supply natural gas.

If, for any period of time during the term hereof, the Vendor shall be unable or fail to deliver the full amount of natural gas required by the Vendee and deliverable hereunder, then the Vendee shall have the right, during such time as the Vendor so fails to furnish the required amount of natural gas, to purchase or otherwise obtain at its own expense natural gas from any available source or manufacture gas to supply such portion of the requirements of its consumers as is not obtainable from the Vendor. Any gas manufactured to make up the Vendee's requirements which the Vendor has failed to supply shall be deemed to be supplied to domestic consumers and the volume deducted from the current volume for which the Vendee is to pay the Vendor at the City gate price for domestic consumption, but any natural gas obtained from sources other than the Vendor to make up such requirements shall be deemed to be supplied to the consumers using gas for industrial or commercial purposes and paying the lowest prices, and only the excess, if any, of such natural gas so obtained from sources other than the Vendor over the total natural gas supplied for industrial or commercial purposes shall be deemed to be gas supplied for domestic consumption displacing, pro tanto, the natural gas supplied by the Vendor at the City gate price. If, for any period of time during

the term hereof, the Vendor is unable or fails to deliver the full amount of natural gas required by the Vendee hereunder, the Vendee shall manufacture gas to supply any portion of the requirements of its customers which would have been supplied with natural gas received hereunder had such supply been sufficient, then at the option of the Vendee the amount of natural gas to be sold and delivered hereunder by the Vendor and purchased and received by the Vendee shall thereafter be reduced by the amount of gas manufactured by the Vendee to supply its customers during such period of shortage which would have been supplied with natural gas sold hereunder if such natural gas had been available.

THIRTEENTH: The natural gas delivered hereunder shall be natural gas as produced in its natural state from the wells except that the Vendor may extract or permit the extraction of any helium content and the natural gas gasoline from said natural gas, but shall not subject its natural gas nor permit its natural gas to be subjected to any treatment in the extraction of natural gas gasoline or otherwise which shall change the chemical composition of any of its component parts or which will dilute it. The Vendor is to tender deliveries to the Vendee only of natural gas which is commercial in quality and condition.

FOURTEENTH: This contract shall continue for twenty (20) years from the day the Vendor is ready to begin deliveries of natural gas hereunder. It is provided, however, that for such time after the expiration on April 6, 1953, of the Vendee's existing franchise to distribute natural gas in the City of Pueblo, Colorado, as the Vendee is prevented from distributing natural gas in the City of Pueblo, Colorado, and charging therefor rates substantially equal to those established in its existing franchise because it does not have a franchise right or other right to do so, the Vendee shall have the right to suspend taking natural gas hereunder. The Vendee agrees to use its best efforts to extend or renew its existing franchise or to procure a new franchise in place thereof or to procure such other right as will enable it to distribute natural gas in Pueblo, Colorado, after the expiration on April 6, 1953 of its present franchise, and if the Vendee is able to procure a franchise or other suitable right to

distribute natural gas in Pueblo, Colorado, after April 6, 1953 when it is not required to take natural gas hereunder and after twenty (20) years after the day the Vendor is ready to begin deliveries of natural gas hereunder, it shall offer to the Vendor the first opportunity to supply natural gas at the price and on the terms at which the Vendee is then able to secure its requirements of natural gas from any other responsible party. The Vendor agrees to use diligent effort to complete its pipe line to the extent necessary to be ready to supply natural gas hereunder to the Vendee on or before the first day of July 1928 and deliveries of natural gas hereunder shall commence on that date or as soon thereafter as the Vendor's pipe line is ready to operate; and agrees to give the Vendee at least three (3) months' notice of the day it will begin deliveries. The Vendee agrees to be ready to receive and distribute natural gas at the maturity of said notice, whereupon the purchases and sales of natural gas hereunder shall become effective.

FIFTEENTH: In the event of either party being rendered unable wholly or in part by force majeure to carry out its obligations under this contract, other than to make payments of the amounts due hereunder, it is agreed that on such party giving notice and full particulars of such force majeure in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such force majeure, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall so far as possible be remedied with all reasonable dispatch.

The term "force majeure" as employed herein shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraint of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or line of pipe, freezing of wells or lines of pipes, sudden partial or entire failure of natural gas wells, and any other cause, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

SIXTEENTH: All notices to be given by the Vendor to the Vendee shall be given by registered mail or by delivering the same to the Vendee at its office at Pueblo, Colorado, or at such other office as may be hereafter designated by the Vendee for the purpose, and all notices to be given by the Vendee to the Vendor shall be given by registered mail or by delivering the same to the Vendor at its office at Colorado Springs, Colorado, or at such other office as may be hereafter designated by the Vendor for the purpose.

SEVENTEENTH: This agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. Whenever any corporation is referred to herein, such reference shall be deemed to include the successors and assigns of such corporation.

EIGHTEENTH: In view of the possibility of natural gas being found along the pipe line of the Vendor or within piping distance of the City of Pueblo, Colorado, and its environs, it is agreed that it may be desirable to arrange for the purchase of such natural gas by the Vendor and the marketing thereof hereunder while the natural gas of the Canadian River Gas Company is reserved for the future, and the Vendee agrees to use its best efforts to cooperate with the Vendor in the disposal of such natural gas. Upon failure of the Vendor to purchase or dispose of any such natural gas or to participate in the purchase or disposal thereof, then the Vendee shall have the right to purchase and market that part of such natural gas which, if such purchase were not made, would be offered for sale to its customers. Otherwise during the continuance of this agreement, the Vendee is to purchase all of its natural gas requirements for Pueblo and its environs from the Vendor.

NINETEENTH: As between the parties hereto, the Vendor shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby, until the same shall have been delivered to the Vendee at the Pueblo Measuring Station after which the Vendee shall be deemed to be in exclusive control and possession thereof and responsible for any such injury or damage.

TWENTIETH: It is covenanted and agreed that if either

party shall fail to perform any of the covenants or obligations imposed by it under and by virtue of this contract, then in such event the other party may at its option terminate this contract by proceeding as follows: The party not in default, shall cause a written notice to be served on the party in default, stating specifically the cause for terminating this contract and declaring it to be the intention of the party giving the notice to terminate the same, thereupon the party in default shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating the contract, and if within said period of thirty (30) days the party in default does so remedy and remove said cause or causes and fully indemnifies the party not in default for any and all consequences of such breach, then such notice shall be withdrawn and this agreement shall continue in full force and effect. In case the party in default does not so remedy and remove the cause or causes and/or does not indemnify the party giving the notice for any and all consequences of such breach, within said period of thirty (30) days, then this agreement shall become null and void from and after the expiration of said period. Any cancellation of this agreement pursuant to the provisions of this Article shall be without prejudice to the party not in default to collect any amounts then due to it and without waiver of any other remedy to which the party not in default may be entitled for violation of this contract.

TWENTY-FIRST: The Vendor agrees to maintain at its Pueblo Measuring Station a pressure of natural gas in its pipe line of not less than forty (40) pounds gauge to the square inch when and so long as it is able to secure, as herein provided, from the Canadian River Gas Company sufficient natural gas to meet the current requirements of the Vendee, and in complying with this covenant the Vendor agrees to install and operate compressing facilities and operate its pipe line and use the storage capacity thereof in accordance with good pipe line practice in order to meet the varying demands of the Vendee's market hereunder.

It is mutually understood and agreed that the Vendee shall keep the Vendor at all times fully informed of all facts tending to show the amount of natural gas which will be

necessary from time to time to supply its requirements hereunder.

In Witness Whereof, the parties have caused this agreement to be duly signed by their respective officers the day and year first above written.

COLORADO INTERSTATE GAS COMPANY

[Seal]

By CHRISTY PAYNE, President.

Attest:

E. E. DUVALL, Secretary.

THE PUEBLO GAS AND FUEL COMPANY

[Seal]

By THOS. I. CARTER, Vice-President.

E. E. McWHINEY, Asst. Secretary.

Colorado Interstate sells gas to Citizens Utilities Company (hereafter called "Citizens") which is the distributing company operating at La Junta, Rocky Ford, Swink, Las Animas, Ordway, Manzanola, Sugar City and Fowler. These are all small Colorado towns in the valley of the Arkansas River. Citizens is the successor company to Public Utilities Consolidated Corporation (hereafter called PUCC), which went through bankruptcy. (Hill, Vol. II, pp. 199, 200). Colorado Interstate originally built an eight-inch branch line eastward from Pueblo to supply PUCC with gas for distribution in La Junta, Rocky Ford and Swink under a contract entered into in 1929. (Hill, Vol. II, pp. 199-200). The present contract between Colorado Interstate and Citizens covering the supply of gas for La Junta, Rocky Ford and Swink, together with amendments thereto, is Exhibit 7-D herein. The contracts between Colorado Interstate and Citizens covering the supply of gas and resale by Citizens at Las Animas, Ordway, Sugar City, Manzanola and Fowler were originally executed by Arkansas Valley Natural Gas Company, hereafter called "Arkansas" and were then assigned by Arkansas to Citizens and are included as Exhibits 7-A and 7-B herein. (Hendee, Vol. IV, p. 628).

Exhibit 7-D, the present contract, dated May 1, 1937, with Citizens for its supply of gas at La Junta, Rocky Ford and Swink, is substantially similar to the other contracts of Colorado Interstate. Article Fifth provides that the price at the city gate for domestic gas shall be 40c per Mcf. with the

further provision that for gas in excess of 1800 cu. ft. per customer per month the gate price shall be 36c per Mcf. For industrial gas the price shall be 75% of the price chargeable by the vendee under industrial contracts to be approved by vendor, provided such price shall not exceed 40c per Mcf. Article Thirteenth limits the term of the contract until the first day of May, 1942. The contract contains the provisions similar to Colorado Interstate's other contracts covering the heat and purity standards for the gas, the place for delivery outside the municipal limits, the method of measurement, the billing and the payment for the gas, interruptions due to force majeure, as defined, the preference of domestic over industrial gas and the right of the distributing company to obtain competitive natural gas from other sources or manufacture gas in case of the vendor's failure to deliver, and the consequent reduction of vendee's obligations to take gas under the contract pro tanto and other such matters.

Exhibit 7-A, the contract covering the supply of gas at Las Animas, Colorado, and Exhibit 7-B, covering the supply at Ordway, Sugar City, Manzanola and Fowler, Colorado, now existing between Colorado Interstate and Citizens, were, as above stated, originally executed with Arkansas. These contracts cover the supply of a relatively small amount of gas. The 1940 census of population for these towns shows: Las Animas, 3,232; Ordway, 1,150; Sugar City, 565; Manzanola, 531; Fowler, 922.

This contract now with Citizens for the supply of gas at the Las Animas city gate (Exhibit 7-A), follows substantially the terms of Colorado Interstate's other contracts. Article Sixth provided that for the first two years after delivery began, the city gate price should be 40c per Mcf. and thereafter 45c, provided, however, that if after the expiration of the two-year period the vendee had been able to secure 375 domestic consumers, consuming an average of 75,000 cu. ft. per consumer per year, or a total domestic consumption equivalent thereto, then the city gate rate for domestic gas would remain at 40c per Mcf. For gas other than domestic, the price would be 85% of that charged by the vendee under contracts to be approved by the vendor, but such price should not exceed that for domestic gas. The term of the contract was made to conform to the project

term and Article Fourteenth provided that it would expire June 23, 1948. Other articles of the contract covered heat and purity standards for the gas, the place for delivery outside the Las Animas city limits, the method of measurement, billing and payment for the gas, interruptions due to force majeure, as defined, the preference of domestic over industrial gas, and the provision that if and to the extent the vendor was unable to deliver gas, the vendee would have the right to obtain competitive natural gas from other sources or manufacture gas and cut down pro tanto the obligation of the vendee to take under the contract.

By an amendment of April 2, 1939, the contract was enlarged to cover the supply of gas for the unincorporated community of Fort Lyon, approximately four miles east of Las Animas. By an amendment dated December 5, 1935, the price of gas was changed so that for the first 1800 cu. ft. of domestic gas the rate was 40c per Mcf. and for the excess, provided the vendee would reduce its domestic rates 2c per Mcf., the rate would be 36c per Mcf. For gas sold under commercial and industrial contracts, the rate was changed to 75% of the price chargeable by the vendee, but in no case in excess of 40c per Mcf. under contracts to be approved by the vendor. This amendment also gave to Arkansas 15% of the gross revenue received by Colorado Interstate under an industrial contract with the United States Veterans Hospital at Fort Lyon in consideration of Arkansas' maintenance of Colorado Interstate's branch line to the Hospital. This amendment of December 5, 1935, was effective for the period beginning the first day of May, 1935, and terminating April 30, 1937, but by letter agreements from time to time, the arrangement was continued. Colorado Interstate's payment to Arkansas for the upkeep by the latter of a part of the former's transmission line just mentioned, was terminated by an agreement dated April 1, 1940, all of which amendments are included in Exhibit 7-A. Colorado Interstate's contract now with Citizens for the supply of gas at the town gates of Ordway, Sugar City, Manzanola and Fowler (Exhibit 7-B), and the amendments thereto are, except as here noted, precisely the same as the contract (Exhibit 7-A) just abstracted.

In Exhibit 7-B the price for domestic gas was originally

fixed at 40c per Mcf. without regard to quantity. The price for industrial or commercial gas was fixed at 85% of the price charged by the vendee, but not in excess of 40c per Mcf. under contracts to be approved by the vendor. By the 1935 amendment the same price as fixed for the city gate at Las Animas was put into effect and continued in effect thereafter. Under all these contracts with Citizens, the maximum gate rate reduction that can be earned by the amendments of 1934 is 4c, thus bringing the gate rate to 36c (Hendee, Vol. IV, pp. 627, 628).

Colorado Interstate originally made with Arkansas a contract (Exhibit 7-C) similar to Exhibits 7-A and 7-B with amendments similar to the amendments to Exhibits 7-A and 7-B for the supply of a small amount of gas, which Arkansas in turn sold to the Fountain Valley School south of Colorado Springs. This contract is still in effect and is the only remaining business of Arkansas Valley.

Colorado Interstate's contract with the City of Colorado Springs for the supply at the city gate of gas for distribution by the city in its municipally owned distribution system, is Exhibit 7-E herein. It was originally made by the city and Arthur K. Lee on July 13, 1930, but was completely amended June 12, 1931, and thereafter assigned to Colorado Interstate. Colorado Springs is a Home Rule or Charter city under the Colorado Constitution, and the contract was signed on behalf of the city by George Birdsall, Mayor.

In the contract Lee is described as vendor and the city as vendee. The first article provides:

"The vendor agrees to construct and complete on or before August 1st, 1931, an eight-inch (8") or larger inside diameter steel pipe line of the best material and according to the latest engineering practices from such point as may be selected on the main pipe line of the Colorado Interstate Gas Company extending from Clayton, New Mexico, to Denver, Colorado, to the City and on or before August 1, 1931, unless the completion of such line by that time is prevented by the Vendor's inability to procure in the usual manner the necessary rights of way therefor, and on the completion of said line to begin the delivery of natural gas produced in such field as may be selected by the vendor to the City at the City Gate hereinafter mentioned."

Article Second provided that for gas sold to the city for resale to domestic consumers, the rate would be 40c per Mef. For gas sold by the city to industrial and commercial consumers under contracts to be approved by the vendor, the rate would be 85% of that collected by the vendee, but not in excess of 40c per Mef. For gas used by the city itself in its power plant, the rate would be 11c per Mef. for the first five years and thereafter a price to be agreed upon by the parties. Article Fourth provided:

"The vendor at the time of the execution of this agreement has deposited with the City his certified check payable to the City for the sum of Twenty-five Thousand Dollars (\$25,000.00) for the purpose of guaranteeing that he will—

"(a) On or before the first day of August, 1931, execute and deliver to Ford, Bacon and Davis, Inc., or to the Colorado Interstate Gas Company, an assignment of this contract, which assignment will obligate such Assignee to perform the provisions of this contract:

"(b). On or before the first day of August, 1931, construct or cause to be constructed, the pipe line from a point on the main pipe line of the Colorado Interstate Gas Company to the City Gate herein specified and be ready to begin the delivery of natural gas hereunder to the City."

This article then provided for the forfeiture to the city of this sum if these conditions were not fulfilled. The term of the contract was made to conform to the project term, Article Seventh providing that "this contract shall continue until the 19th day of June, 1948." In Article Ninth it was provided:

"The City agrees to adopt from time to time, to apply throughout its natural gas distribution pipe line system, a schedule of rates which will tend to stimulate sales of natural gas for house heating as well as for cooking, laundry work and hot water heating. Such schedule of rates applicable to consumers within the City limits to be not in excess of the following schedule which is a net rate:

"For the first four hundred cubic feet or less of gas

used per month ninety cents (90c); (by amendment hereafter abstracted, this rate is now 75c.)

"For the next six hundred cubic feet of gas used per month fifteen cents (15c) per 100 cubic feet;

"For the next one thousand cubic feet of gas used per month twelve cents (12c) per 100 cubic feet;

"For the next one thousand cubic feet of gas used per month seven and one-half cents (7½c) per 100 cubic feet;

"For the next seven thousand cubic feet of gas used per month six cents (6c) per 100 cubic feet; (By amendment hereafter abstracted, this rate is now 5½c.)

"Additional cubic feet used per month five cents (5c) per 100 cubic feet. (By amendment hereafter abstracted, this rate is now 4½c.)"

Article Tenth provided:

"The City agrees that the Vendor may sell, assign, transfer and set over this contract and its interest therein to Ford, Bacon and Davis, Inc., or to the Colorado Interstate Gas Company, and if the vendor shall so assign this contract and his interest therein to Ford, Bacon and Davis, Inc., the City further agrees that Ford, Bacon and Davis, Inc., may sell, assign, transfer and set over unto the Colorado Interstate Gas Company this contract and its interest therein and that such assignments shall not require the written consent of the City. However, this contract shall not be otherwise assignable without the written consent of the City."

Other articles provide for the preference of domestic over industrial and commercial gas, the heat and purity standards of the gas, the point of delivery at the city gate just outside the city limits, the metering, billing and payment, interruptions to *force majeure*, as defined, and like matters not now in issue.

As a part of Exhibit 7-E there is included the assignment of the contract on June 15, 1931, by Lee to FB&D and likewise the assignment on July 10, 1931, by FB&D to Colorado Interstate. There is also included in the exhibit a supplemental agreement dated July 28, 1931 between the City of

Colorado Springs and Colorado Interstate, wherein the assignments by Lee to FB&D and then the assignment by FB&D to Colorado Interstate are confirmed and Articles Seventh and Ninth of the original contract between the city and Lee are amended. Article Seventh was amended to read:

"This contract shall continue until the 19th day of June, 1948. The city agrees to begin taking natural gas under this contract on or before the 15th day of September, 1931."

The amendment to Article Ninth is not material to any issue in this case.

This exhibit also includes the amendment by the city and the company dated April 30, 1935, providing for voluntary reduction in the gate rate by Colorado Interstate to increase the domestic and house heating consumption similar to the amendments made in the Denver and Pueblo contracts and abstracted above. Under this amendment the gate rate is reduced by 4c to 36c per Mcf. upon the sales of certain quantities of gas and upon additional sales there are graduated decreases in the gate rate, aggregating a maximum additional 2c reduction; that is down to a minimum gate rate of 34c (Hendee, Vol. IV, p. 627). By letter agreement of August 26, 1936, the city and company agreed on a rate for the industrial gas sold to the city for its power plant of 11c per Mcf., which should be good until cancelled by one hundred twenty days' notice, either party to the other.

Hill of FB&D, first operating manager of the pipe line of Colorado Interstate under the operating agreement with FB&D, testified that his principals attempted to get a gas supply contract with the city before the city contracted with Lee. He stated:

"The first negotiations were unsuccessful because the parties were unable to get together on terms, but later, as I recollect in 1931, a supply contract was finally entered into. In this instance we had to negotiate the contract in the face of severe competition arising from an abundant and cheap supply of coal in the vicinity of Colorado Springs." (Vol. II, p. 180).

In the meantime, Lee was successful in negotiating a con-

tract with the city. This contract Colorado Interstate was willing to purchase from Lee after it had been amended to provide a satisfactory gate rate. Hill and Benson testified that FB&D, acting for Colorado Interstate, negotiated the purchase and assignment of this Lee contract with Pratt and Dunham, brokers who represented Lee. The agreement was that through FB&D Colorado Interstate would pay to Pratt and Dunham a total of \$275,000. This \$275,000 payment was also in consideration of Lee's transfer to Arkansas of his franchises at Ordway, Sugar City, Manzanola, and Fowler. This agreement was carried out. (Hill, Vol. II, pp. 180, 195, 196, 199, 211, 212, 214, 215; Payne, Vol. IV, pp. 539, 541, inc.). This account of the transaction was confirmed by Arthur K. Lee in his testimony before the Federal Trade Commission (Ex. 10, pp. 359 to 372, inc.). The franchises of Lee at Ordway, Sugar City, Manzanola, and Fowler (as well as Lee's franchises in four other villages, which were never exercised by anyone) were transferred immediately to Arkansas and were never exercised or operated by Colorado Interstate (Hill, Vol. II, p. 215; Lusk, Vol. XVII, pp. 2430, 2431).

Other evidence as to the negotiation of this contract for the supply of gas at the Colorado Springs city gate is abstracted hereafter under "Cost of Contracts."

Colorado Interstate's next contract is one with Natural Gas Pipeline Company of America (hereafter called "Pipe Line Company of America"), dated October 15, 1931, which, together with the amendments thereto, is Exhibit 7-G herein.

EXHIBIT NO. 7-G.

Federal Power Commission.

Rate Schedule F.P.C. No. 8, also Supplements and Exhibit.

Filed by Colorado Interstate Gas Company,

Colorado Springs, Colorado.

Covering Natural Gas Sold to

Natural Gas Pipeline Company of America, Chicago, Illinois.

This schedule consists of Two Agreements dated October 15, 1931, Supplemental Agreements dated respectively December 22, 1931, October 27, 1932, November 9, 1933, October 2, 1934, two dated September 4, 1935, January 30, 1936,

March 26, 1937 and Letter Agreement dated July 27, 1938, which provide for the sale to Natural Gas Pipeline Company of America of 25% of the natural gas requirements of its pipe line, under the terms and conditions set forth therein.

Agreement Between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, Dated October 15, 1931.

THIS AGREEMENT, dated October 15, 1931, between COLORADO INTERSTATE GAS COMPANY, a corporation of the State of Delaware, which corporation is hereinafter referred to as "SELLER", and NATURAL GAS PIPELINE COMPANY OF AMERICA (formerly known as Continental Construction Corporation), a corporation of the State of Delaware, which corporation is hereinafter referred to as "BUYER",

WITNESSETH:

WHEREAS Buyer has constructed a natural gas pipeline from a point near Gray, Beaver County, Oklahoma, to a point near Joliet, Illinois, and may construct branches to Milwaukee, Wisconsin, and to other points; and

WHEREAS during the period of this agreement Buyer may increase materially the capacity of the pipeline now constructed by additions thereto, or by constructing additional pipelines to transport natural gas from Gray, Beaver County, Oklahoma, to the points above named and others; and

WHEREAS Buyer desires to purchase from Seller twenty-five percent (25%) of the natural gas requirements of the said pipeline as it now exists or may hereafter be added to or supplemented and a similar part of the requirements of any such additional pipeline hereafter constructed as it shall exist at the time of completion or thereafter be added to or supplemented and expects to purchase from Texoma Natural Gas Company the balance of such requirements; and

WHEREAS Seller desires to sell to Buyer twenty-five percent (25%) of the requirements of said pipelines:

NOW THEREFORE, in consideration of the mutual covenants herein contained, the parties do hereby covenant and agree as follows:

FIRST: Seller agrees to sell and deliver to Buyer, and Buyer agrees to purchase and receive from Seller, subject to the limitations hereinafter expressed, such quantities of natural gas as shall average monthly as nearly as is practicable through good operations twenty-five percent (25%) of the total amount of gas transported at any time during the continuance of this agreement by Buyer through any part or all of its pipeline or pipelines now or hereafter constructed between Gray, Beaver County, Oklahoma, and Joliet, Illinois, Milwaukee, Wisconsin, and any other points to which any gas transported through any part of Buyer's said pipeline or pipelines shall be delivered. If at any time during the continuance hereof Buyer shall sell or otherwise dispose of all or any part of its main pipeline or pipelines between Gray, Oklahoma and Joliet, Illinois, there shall be imposed upon the person acquiring the same as a condition of such sale or disposal the obligation to take from Seller at the point of delivery herein specified and upon the other terms and conditions herein provided twenty-five percent (25%) of the gas transported through the main pipeline or pipelines or the part thereof so sold or disposed of. If at any time during the continuance hereof Buyer shall sell or otherwise dispose of any branch pipeline or pipelines such sale or disposal may be made free from any obligation on the part of the person acquiring the same to take from Seller any gas transported through such branch pipeline or pipelines, but if Buyer shall thereafter furnish all or any part of the gas transported through such branch pipeline or pipelines, then Seller shall have the right to furnish to Buyer hereunder twenty-five percent (25%) of any quantity of gas which Buyer shall so furnish.

SECOND: Seller shall deliver and Buyer shall receive the natural gas hereby sold at the junction near Gray, Beaver County, Oklahoma, between a certain pipeline owned by Texoma Natural Gas Company and the said pipeline of Buyer, such junction point being hereinafter sometimes referred to as "Gray Junction", and title to the gas delivered hereunder shall pass from Seller to Buyer at the said point of delivery. Buyer hereby consents to the delivery on the premises of Buyer at Gray, Junction of the natural gas to be delivered by Seller to Buyer hereunder, said premises being more particularly described as follows: the east thirty

(30) acres of the northwest quarter (NW $\frac{1}{4}$) of the northeast quarter (NE $\frac{1}{4}$) of section fifteen (15), township one north (T1N), range twenty east (R20E), in Beaver County, Oklahoma.

THIRD: If, during the continuance of this agreement, natural gas, except natural gas produced in Parmer, Castro, Swisher, Briscoe, Hall or Childress Counties, Texas or any counties north thereof in the State of Texas shall be found which, if not otherwise disposed of, would in the opinion of Buyer be offered in markets to be served from its said pipeline or pipelines or from any extension thereof and such natural gas is taken by Buyer the quantity of natural gas which Seller is required to sell and deliver and Buyer is required to purchase and receive hereunder shall be reduced by a quantity which shall be twenty-five percent (25%) of the quantity of such natural gas so taken by Buyer.

FOURTH: The gas delivered hereunder shall be natural gas as produced in its natural state, except that Seller may extract or permit the extraction of natural gasoline and/or helium (but not propane or butane except so far as is necessary in the extraction of natural gasoline and/or helium, such propane and butane to be restored to the gas to the extent practicable) and may treat such natural gas in order to bring it within the standards of purity hereinafter in this Article expressed.

When the natural gas delivered by Seller to Buyer hereunder is transported to Seller by any means other than pursuant to a certain Lease and Operating Agreement dated October 15, 1931, between Canadian River Gas Company and Texoma Natural Gas Company, then the natural gas delivered by Seller to Buyer hereunder:

(a) shall be commercially free from solid and/or liquid matter;

(b) shall not contain more than one grain of hydrogen sulphide per one hundred (100) cubic feet, provided that this purity requirement shall be considered as satisfied if a strip of white filter paper, recently moistened with a solution of one hundred (100) grains of lead acetate in one hundred (100) cubic centimeters of water, be exposed to the gas for one and one-half (1½) minutes in an apparatus previously purged, through which the

gas is flowing at the rate of approximately five (5) cubic feet per hour, the gas not impinging from a jet upon the test paper, and after this exposure the test paper is found not distinctly darker than a second paper freshly moistened with the solution and not exposed to the gas;

(c) shall not contain more than thirty (30) grains of total sulphur per one hundred (100) cubic feet;

(d) shall not contain an amount of moisture at any time exceeding that corresponding to saturation at the natural temperature of the gas at the point of measurement of the volume thereof as hereinafter provided and at the pressure at such point, and that the water shall not be present in liquid phase;

provided, however, that in the event any portion of any natural gas delivered to Buyer by vendors other than Seller shall contain a greater amount of hydrogen sulphide and/or a greater amount of total sulphur than the amount specified herein, Seller, during the period of such delivery by such other vendor of Buyer shall be privileged to deliver to Buyer a like proportion of natural gas of the same sulphur content, but shall not deliver the same to Buyer commingled with any other gas then being delivered by it which conforms to the requirements as to sulphur content hereinbefore set forth, unless such other vendor of Buyer shall at the time be delivering to Buyer such gas in such commingled state.

The sulphur content of the natural gas delivered by Seller to Buyer under the circumstances mentioned in this Article shall for the purposes hereof be deemed to be that determined by tests made or caused to be made by Buyer at least once each day of samples of natural gas taken from the gas stream from which deliveries are made as near as conveniently may be to the point where deliveries of such natural gas are made hereunder or at such other place as the parties may agree upon.

Should such tests disclose the presence of sulphur or hydrogen sulphide in excess of the amounts above specified, then Buyer may, upon advising Seller of its intention so to do, refuse to accept further deliveries of natural gas from Seller hereunder until such time as the gas at the point where such samples were taken shall conform to the

foregoing sulphur content requirement. Advice given by Buyer by telegraph, telephone or in writing to the person in charge of Seller's office at Colorado Springs, Colorado, shall be deemed to have been given to Seller for the purposes of this Article.

FIFTH: The volume of natural gas to be paid for by Buyer to Seller hereunder for any month shall be the volume of natural gas delivered during such month by Canadian River Gas Company to Fritch Station (or to any other compressor station used to compress for transportation to Gray, Beaver County, Oklahoma, the natural gas deliverable hereunder) as computed from the readings of the meters for which provision is made in Article Eleventh hereof; which said computed volume shall be reduced two percent (2%) during the period in which the natural gasoline shall be extracted under the provisions of a certain gasoline plant operating agreement between Texoma Natural Gas Company and Canadian River Gas Company dated October 15, 1931, from the natural gas after such metering thereof and prior to the delivery of the gas to Buyer hereunder, in order to compensate for the shrinkage in volume of the said gas caused by the extraction of natural gasoline therefrom. At the end of any calendar year hereafter the percentage reduction in volume may be changed by agreement of the parties hereto so as to conform to the conditions then existing which affect such percentage.

SIXTH: The natural gas delivered hereunder shall (after the extraction of the natural gasoline therefrom, if such extraction occurs) contain not less than one thousand (1,000) British thermal units per cubic foot at an assumed absolute pressure of fourteen and sixty-five hundredths (14.65) pounds per square inch and at a base temperature of sixty degrees Fahrenheit (60°F.), except that if Buyer shall at any time purchase from Texoma Natural Gas Company natural gas having a British thermal unit content of less than the amount above specified, Seller may during the same period deliver to Buyer hereunder natural gas having such lesser British thermal unit content. It is understood and agreed by the parties that in the process of extracting gasoline from the raw natural gas a certain number of heat units will be taken therefrom. For the purpose of making computations hereunder, thirty-five (35) British thermal units

per cubic foot of the raw natural gas shall be deemed to be the amount so taken. At the end of any calendar year hereafter, the number of British thermal units which are deemed to be so removed in the extraction of gasoline may be changed by agreement of the parties hereto so as to conform to the conditions then existing which affect the number thereof.

Hourly tests of the British thermal unit content of the stream of gas passing through the meters, provision for which is made in Article Eleventh hereof, shall be made or caused to be made by Buyer, at a point after such gas has passed through the said meters and before it has entered the compressors at Fritch Station. If such tests show a British thermal unit content in such gas, at the pressure and temperature hereinabove specified, equal to one thousand (1,000) British thermal units per cubic foot plus thirty-five (35) British thermal units per cubic foot or such other number of British thermal units per cubic foot as shall at the time of such tests be agreed to represent the number of British thermal units which will be taken from the raw natural gas in the subsequent extraction of gasoline therefrom, the gas then being delivered hereunder shall be accepted as complying with the requirements of this Article. In the event that the hourly average of the British thermal unit content of such gas as disclosed by the tests taken in any twenty-four hour period is less than the amount above specified, Buyer may immediately advise Seller of such condition and unless, within forty-eight (48) hours after such notice, the British thermal unit content of the gas as determined by a test or tests made at the place and in the manner above specified conforms to the following requirements, Buyer may upon further advice to Seller, of its intention so to do, refuse to receive further deliveries of gas hereunder from Seller until such time as further tests made at the place and in the manner above specified shall disclose that the gas so tested again conforms to the said British thermal unit content requirement. Advice by telegraph, telephone or in writing given by Buyer to the person in charge of Seller's office at Colorado Springs, Colorado, shall be deemed for the purposes of this Article to be given to Seller.

Buyer shall make available to Seller daily the results of tests made by or for Buyer of the British thermal unit

content and sulphur content of the natural gas then being purchased by it from Texoma Natural Gas Company and from Seller. Seller shall have full opportunity to have a representative present at any such test or tests.

SEVENTH: The pressure at which the gas sold by Seller hereunder shall be delivered by it into Buyer's pipeline or pipelines at Gray Junction shall be the same pressure as is being maintained from time to time by Texoma Natural Gas Company for the purpose of making deliveries under its contract with Buyer dated October 15, 1931.

EIGHTH: For the gas delivered hereunder in any month prior to October 1, 1946, Buyer shall pay to Seller (a) a sum calculated at seven cents (7¢) for each one thousand (1,000) cubic feet of gas delivered, and in addition (b) a sum equal to all amounts paid or to be paid by Canadian River Gas Company to Texoma Natural Gas Company for that and all preceding months under the hereinbefore mentioned Lease and Operating Agreement between them dated October 15, 1931, to the extent that such amounts have not theretofore been paid by Buyer to Seller under this clause (b) of this paragraph. In the event of the termination, during the period of this agreement, of the said Lease and Operating Agreement without fault on the part of Canadian River Gas Company, Buyer shall pay to Seller as a part of the price for natural gas thereafter delivered hereunder, in lieu of the amount specified in the foregoing clause (b), the amount of the cost which shall have been incurred for such month by Seller in transporting or causing to be transported from Fritch Station to Gray Junction the natural gas delivered hereunder during such month; or at its option shall at its cost furnish or cause to be furnished transportation from Fritch Station to Gray Junction of the natural gas to be delivered hereunder.

For the gas delivered hereunder in any month after September 30, 1946, Buyer shall pay to Seller (a) a sum calculated by multiplying the hereinafter defined cost to Canadian River Gas Company (which shall include any successor to said company) per one thousand (1,000) cubic feet of producing and gathering natural gas during such month in the area described in Article Fourteenth hereof, by the number of thousands of cubic feet of gas delivered, and in addition (b) a sum equal to ten percent (10%) of a

sum computed by taking the sum calculated as described in clause (a) of this sentence and deducting therefrom Canadian River Gas Company's cost of extracting natural gasoline from its natural gas and amounts paid by Canadian River Gas Company for royalties on natural gasoline extracted from its natural gas and adding to the result all amounts received by Canadian River Gas Company from the sale of gasoline extracted by or for it from its natural gas after deducting therefrom the cost to it of the marketing of such gasoline, and in addition (c) a sum equal to all amounts paid or to be paid by Canadian River Gas Company to Texoma Natural Gas Company for that and all preceding months under the hereinbefore mentioned Lease and Operating Agreement between them dated October 15, 1931, to the extent that such amounts have not theretofore been paid by Buyer to Seller under this clause (c) of this paragraph, and under clause (b) of the first paragraph of this Article Eighth. In the event of the termination, during the period of this agreement, of the said Lease and Operating Agreement without fault on the part of Canadian River Gas Company, Buyer shall pay to Seller as a part of the price for gas thereafter delivered hereunder, in lieu of the amount specified in the foregoing clause (c), the amount of the cost which shall have been incurred for such month by Seller in transporting or causing to be transported from Fritch Station to Gray Junction the natural gas delivered hereunder during such month; or at its option shall at its cost furnish or cause to be furnished transportation from Fritch Station to Gray Junction of the natural gas to be delivered hereunder.

The cost to Canadian River Gas Company of producing each one thousand (1,000) cubic feet of natural gas as above referred to, shall be determined by adding—

(1) Canadian River Gas Company's entire cost, including natural gas used for fuel and charged at the average price being paid by Canadian River Gas Company for natural gas purchased from other producers, or if Canadian River Gas Company is not purchasing natural gas from other producers, then at the fair market value thereof at the mouth of the well in the field, of drilling wells for natural gas in the area described in Article Fourteenth hereof, irrespective of

whether such wells result in procuring natural gas in commercial quantities, or are dry holes, or result in procuring oil, and the cost to Canadian River Gas Company of purchasing gas wells in said area from the owners of oil rights in oil and gas leases; provided, however, there shall not be included under this sub-paragraph (1) of Article Eighth any item of cost incurred by Canadian River Gas Company for the drilling of wells not reasonably necessary under good operating conditions to supply its then existing customers and properly carry on its operations;

(2) Canadian River Gas Company's entire cost, as incurred in the said area, of maintaining producing equipment, of operating wells, of extracting natural gasoline from its natural gas, of rentals paid by it in carrying its gas and oil leaseholds, rights and assets, and of all royalties on natural gas, on natural gasoline extracted therefrom, and on oil, including in such cost any natural gas used by it for fuel in the foregoing operations and charged at the price provided in sub-paragraph (1) of this Article Eighth, together with all costs of the foregoing operations and maintenance not otherwise herein enumerated and litigation expense, public liability and damages resulting from its operations in the said area;

(3) Canadian River Gas Company's entire cost of acquiring renewals of leases and of acquiring new leases and other rights to produce natural gas in the said area; provided, however, there shall not be included under this sub-paragraph (3) of Article Eighth any cost of acquiring new leases or other rights to produce natural gas in said area beyond those reasonably necessary to enable Canadian River Gas Company to supply gas to customers then under contract with it and to establish reasonable reserves for the future performance of then existing contracts.

(4) Canadian River Gas Company's cost of measuring natural gas produced in said area and of maintaining meters and other equipment, facilities and installations for measuring natural gas.

(5) all taxes assessed against Canadian River Gas

Company because of the ownership or operation by it in the said area of its natural gas and oil wells, drilling equipment and other facilities, of property used or useful by it in the production of natural gas and oil; and of oil and gas leaseholds, rights and assets, but not including in this item any amount for taxes on net income or net profits;

(6) that part of all unallocated general administrative and office expense of Canadian River Gas Company which is properly chargeable to the operations and maintenance referred to in the foregoing sub-paragraphs (1) to (5) inclusive of this Article Eighth;

and by deducting from the total thus determined the sum of the following amounts—

(7) any amounts included in sub-paragraph (1) of this Article Eighth for the cost of natural gas actually produced by Canadian River Gas Company and used by it in the drilling of wells and any amounts included in sub-paragraph (2) of this Article Eighth for the cost of natural gas actually produced by Canadian River Gas Company and used by it in the manner there specified;

(8) any amounts received by Canadian River Gas Company from the sale of oil produced by it from any well in said area after deducting from the total amount received therefor the cost to it of the marketing thereof;

(9) all amounts received by Canadian River Gas Company from the sale of gasoline extracted by or for it from natural gas produced in the said area after deducting from the total amounts received therefor the cost to it of the marketing thereof;

(10) all amounts received by Canadian River Gas Company from the sale of any gas or oil well drilled by it after September 30, 1946, in said area, including among other items the sale of any oil well to the owner of the oil rights under the lease on which such well is drilled;

(11) all amounts received by Canadian River Gas Company for property and salvage of property installed or acquired by it in the said area after September 30, 1946, the cost of which is or has been included in com-

putations of the cost of producing gas made in accordance with this Article Eighth;

and by dividing the remainder by the number of thousands of cubic feet of natural gas produced by Canadian River Gas Company in the said area and sold by it, including the number of thousands of cubic feet of natural gas used by it as fuel in compressing gas at its Amarillo Compressing Station or any other trunk line compressor station hereafter constructed or acquired by it and used by it for similar purposes, but excluding from such sales any quantity of natural gas produced by Canadian River Gas Company and used by it in the operations referred to in sub-paragraphs (1) and (2) of this Article Eighth.

The cost to Canadian River Gas Company of gathering each one thousand (1,000) cubic feet of natural gas, as hereinbefore referred to, shall be determined by adding—

(12) Canadian River Gas Company's entire cost, including natural gas used in connection therewith and charged at the price provided in sub-paragraph (1) of this Article Eighth, of installing or acquiring gathering pipe lines, field or supplemental compressor stations and other equipment, installations and facilities used by or useful to it for gathering natural gas produced by it in the said area and transporting natural gas from the points of production thereof in the said counties to Fritch Station, to the site of the Amarillo Compressing Station of Canadian River Gas Company, and to the site of any other similar trunk line compressor station to which it may hereafter deliver such natural gas;

(13) Canadian River Gas Company's entire cost of maintaining and operating gathering pipe lines, field or supplemental compressor stations and other equipment, installations and facilities used by or useful to it for gathering natural gas in the said area and transporting natural gas from the points of production thereof in the said area to Fritch Station, to the site of the Amarillo Compressing Station of Canadian River Gas Company, and to the site of any other similar trunk line compressor station to which it may hereafter deliver such natural gas, together with all costs not above enumerated which are properly chargeable to the maintenance and operation of such gathering system;

(14) that part of Canadian River Gas Company's unallocated general, administrative and office expenses which is properly chargeable to the maintenance and operation of such gathering system;

(15) all taxes assessed against Canadian River Gas Company because of the ownership or operation by it of such gathering system, not including in this item any amount for taxes on its net income or net profits; and by deducting from the total thus determined the sum of the following amounts—

(16) any amounts included in sub-paragraphs (12) to (15) inclusive of this Article Eighth for the cost of natural gas actually produced by Canadian River Gas Company and used by it in the installation and/or the operation and maintenance of the gathering system referred to in said sub-paragraphs;

(17) all amounts received by Canadian River Gas Company for property and salvage of property installed or acquired by it in the said area after September 30, 1946, the cost of which is or has been included in computations of the cost of gathering natural gas made in accordance with this Article Eighth;

(18) the amount of any revenue received by Canadian River Gas Company for the transportation of natural gas for hire through any part of the said gathering system for any other persons;

and by dividing the remainder thus ascertained by the number of thousands of cubic feet of natural gas delivered out of the said gathering system by Canadian River Gas Company. The quantity of natural gas delivered out of the said gathering system at Canadian River Gas Company's Amarillo Compressing Station shall be assumed to be the quantity measured at the discharge side of said station plus the quantity used as fuel at said station.

No amount for amortization of cost of wells drilled or of property installed or acquired by Canadian River Gas Company prior to October 1, 1946, or any cost or expense incurred by it in connection with the drilling of such wells, installation or acquisition of such property shall be included in any of the computations made under the provisions of

this Article Eighth. The entire cost to Canadian River Gas Company of installing or acquiring any property installed or acquired by it after September 30, 1946, the cost of which enters into the foregoing computations under the provisions of this Article Eighth, shall be charged, for the purpose of such computations, during the month in which such cost is incurred, and no amount shall thereafter be included on account of the amortization of any such property.

The cost to Canadian River Gas Company of producing each one thousand (1,000) cubic feet of natural gas during any month after September 30, 1946, ascertained as above provided, shall be added to the cost to it of gathering each one thousand (1,000) cubic feet of natural gas during such month, ascertained as above provided, and the sum thus obtained shall be taken as the cost to it of producing and gathering each one thousand (1,000) cubic feet of natural gas during such month for the purpose of computing the price to be paid by Buyer to Seller for natural gas delivered to Buyer hereunder during such month as hereinbefore in this Article Eighth provided.

NINTH: If this agreement continues after September 30, 1946, then at the time of the termination hereof, the salvage value of the then remaining casing, pipe lines, machinery, equipment and all other apparatus installed or acquired by Canadian River Gas Company in the said area after September 30, 1946, the cost of which has been included in computations of the cost to Canadian River Gas Company of producing and gathering natural gas in accordance with Article Eighth hereof, shall be determined by agreement of the parties or, upon their failure to agree, then by arbitration in the manner hereinafter in Article Nineteenth provided, and within thirty days after such determination by agreement or by arbitration Seller shall pay to Buyer the part of the thus determined salvage value represented by the proportion which the amount of gas purchased hereunder by Buyer after September 30, 1946, bears to the total amount of gas produced by Canadian River Gas Company in the said area after said date.

TENTH: Seller will provide Buyer with any opportunity Seller possesses or can demand to inspect books, records and accounts containing original entries of items entering into the computation of the cost of producing and gathering

natural gas in accordance with the provisions of Article Eighth hereof, and of any sum to be paid under the provisions of Article Ninth hereof.

ELEVENTH: Seller shall furnish, install, operate and maintain, or cause to be furnished, installed, operated and maintained, a metering station properly equipped with orifice meters and recording gauges or such other type of meter or meters of standard make and design as may be mutually agreed upon, at or near the intake side of Fritch Station (or of any other compressor station used to compress for transportation to Gray, Beaver County, Oklahoma, the natural gas delivered hereunder), in such manner as to accomplish the measurement of natural gas contemplated in Article Fifth hereof.

The metering equipment so installed by or for Seller, together with any buildings erected by or for it for such equipment shall be and remain its property or the property of the person or corporation erecting such equipment and buildings. If the metering station to be installed as herein provided shall be on the premises of Texoma Natural Gas Company, Buyer will obtain for and grant to Seller or to the person or corporation installing the metering equipment for Seller, the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and/or removal. Buyer shall have access to said metering equipment at all reasonable times, but the reading, calibrating and adjusting thereof and changing of charts, shall be done only by the employees, agents or representatives of Seller, or of the person or corporation erecting such equipment. Charts and records from such metering equipment shall remain the property of Seller or the property of the person or corporation installing such equipment for Seller. Upon request of Buyer, Seller will submit to Buyer records and charts from such metering equipment subject to return by Buyer within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file for the mutual use of both parties. At least once each month and on a date as near the first of the month as practicable, Seller shall calibrate the said meters or cause the same to be calibrated in the presence of a representative of Buyer and the parties shall jointly observe any adjustments which are made in the

meters, should such adjustments be necessary, and if the check meters hereinafter provided for have been installed, the same shall also be calibrated or caused to be calibrated by Buyer in the presence of representatives of Seller and any necessary adjustments jointly observed. For purposes of measurement and meter calibration the atmospheric pressure shall be assumed to be thirteen (13) pounds per square inch irrespective of variations in the actual atmospheric pressure from time to time. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party, and the parties will then cooperate to secure an immediate calibration test and joint observation of any adjustment. Each party shall give to the other notice of the time of all tests of meters sufficiently in advance of holding the tests so that the other may conveniently have its representative present. If upon any test any metering equipment is found to be inaccurate by two percent (2%) or more, but not otherwise, registrations thereof and any payments based on such registrations shall be corrected at the rate of such inaccuracy for any period of inaccuracy which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon, then for a period extending back one-half of the time elapsed since the last date of calibration, not exceeding, however, fifteen (15) days. Following any test any metering equipment found inaccurate shall immediately be adjusted to measure accurately. If for any reason meters are out of service and/or out of repair so that the quantity of natural gas cannot be ascertained or computed from the readings thereof, the quantity of natural gas delivered during the period such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available using the first of the following methods which is feasible:

(a) by correcting the error if the percentage of error is ascertainable by calibration, test or mathematical calculation;

(b) by using the registration of any check meter or meters if installed and accurately registering;

(c) by estimating the quantity of deliveries by deliv-

eries during preceding periods under similar conditions when the meter was registering accurately.

The unit of volume of natural gas delivered under this agreement shall be one (1) cubic foot of natural gas at a base temperature of sixty degrees Fahrenheit (60° F.) and at an absolute pressure of sixteen and four-tenths (16.4) pounds per square inch, and the readings and registrations of the metering equipment herein provided for shall be computed into such units. The true physical characteristics of the natural gas which affect such computations, including deviations from Boyle's Law, shall be given each its due consideration, and the determination of such physical characteristics shall be made in such manner and with such apparatus as is satisfactory to both parties, which shall be preferably in a manner and with apparatus approved by the United States Bureau of Standards. The temperature of the natural gas flowing through the meter shall be obtained by the use of a recording thermometer so installed that it will properly record such temperature. The average temperature recorded each day shall be used in computing measurements for that day. The specific gravity of the natural gas shall be determined or caused to be determined by Seller at or near the point of metering at least once each day. Seller shall advise Buyer of the time at which specific gravity tests are to be made in order that Buyer may conveniently have its representative present. The Edwards type specific gravity balance or other equipment acceptable to both parties shall be used.

Buyer may at its option and at its cost and expense install and operate or cause to be installed and operated check metering equipment, but the metering equipment installed by or for Seller shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by or for Buyer, together with any buildings erected for such equipment, shall be and remain Buyer's property or the property of the person so installing it. Whenever such check metering equipment is located on premises of Seller, Seller

grants to Buyer the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and or removal. The check meters may be of the orifice type or of such other standard type for the measurement of natural gas as is approved by both parties. In the event check metering equipment is installed by or for Buyer, Seller shall have access to the same at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by representatives of Buyer or of the person or corporation installing the same. Charts and records from said check metering equipment shall remain the property of Buyer. Upon request of Seller, Buyer will submit to Seller records and charts from said check metering equipment together with calculations therefrom for Seller's inspection and verification, subject to return by Seller within ten (10) days after receipt thereof.

TWELFTH: The total heating value of the natural gas delivered hereunder shall be determined hourly, as near the beginning of each hour as is practicable, by means of a Thomas recording calorimeter. The accuracy of the Thomas recording calorimeter shall be checked daily by means of a Junkers type of flow calorimeter operated according to the method of the United States Bureau of Standards. The Thomas and Junkers type calorimeters shall be installed, maintained and operated or caused to be installed, maintained and operated by Buyer. If at any time the Thomas recording calorimeter is out of service or not operating properly for any reason, hourly determinations of total heating value shall be made by the Junkers calorimeter and such hourly determinations shall be used in computing averages. The Thomas recording calorimeter shall be deemed operating properly when the total heating value as recorded by it does not vary from the total heating value as determined by the Junkers calorimeter by more than ten (10) British thermal units per cubic foot. Seller shall have the right to examine the said calorimeter equipment and test records at any reasonable hour and to have a representative present at all tests and adjustments of such calorimeter equipment.

THIRTEENTH: Seller shall render to Buyer on or before the fifteenth day of each month a statement of the quantity of natural gas delivered hereunder by Seller during the calendar month next preceding and of the amount due from Buyer therefor, and shall accompany said statement with all supporting charts available to Seller, which charts shall be returned to Seller after examination. Buyer agrees to make payment on or before the twenty-seventh day of each month for all natural gas delivered during the preceding calendar month. Should Buyer fail to pay any amount due to Seller when the same is due, interest thereon shall accrue at the rate of six percent (6%) per annum from the date when such amount is due until the same is paid. If such failure to pay continues for sixty (60) days, Seller may suspend deliveries of natural gas hereunder, but the exercise of such right shall be in addition to any other remedies available to Seller.

FOURTEENTH: The gas to be delivered hereunder by Seller shall be natural gas as produced in its natural state from the lands, gas leaseholds, gas rights, gas contracts and gas properties now or hereafter owned by Canadian River Gas Company, in Potter, Oldham, Hartley and Sherman counties, Texas; in that part of Moore County, Texas, south of an east and west line nine and one-half ($9\frac{1}{2}$) miles north of and parallel to the southern boundary of said county; in that part of Hutchinson County, Texas, south of an east and west line nine and one-half ($9\frac{1}{2}$) miles north of and parallel to the southern boundary of said county and west of a north and south line eight (8) miles east of and parallel to the western boundary of said county; and in that part of Carson County, Texas, west of a north and south line six and one-half ($6\frac{1}{2}$) miles east of and parallel to the western boundary of said county and north of an east and west line twelve (12) miles south of and parallel to the northern boundary of said county, and such lands, gas leaseholds, gas rights, gas contracts and gas properties in the hands of any subsequent owner. Seller agrees that it will throughout the term hereof preserve and

exercise any rights granted to it in a certain contract dated January 3, 1928, between Seller and Canadian River Gas Company and any further rights granted to it in any other or supplemental contract between said parties, to require Canadian River Gas Company at all times to use its best efforts to renew or extend its gas leaseholds, gas rights, gas contracts and gas estates and to operate its properties diligently and in a skillful and methodical way to accomplish the production and delivery to Seller of sufficient natural gas to satisfy Seller's obligations hereunder, and under any contracts deliveries under which have priority over the deliveries hereunder.

Seller reserves the right upon thirty (30) days previous written notice to Buyer to consent to the abandonment by Canadian River Gas Company of any of the lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells now or hereafter belonging to that company and to renounce its right to receive natural gas from any of the lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells now or hereafter owned by Canadian River Gas Company, when the properties, the subject of such abandonment or renouncement, are not capable of producing gas in commercial quantities and if Buyer does not within thirty (30) days after receipt of such notice object to such abandonment or renouncement then it shall be conclusively presumed that such lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells so to be abandoned or renounced are not capable of producing gas in commercial quantities.

Seller shall also during the continuance hereof have the right to renounce its right under the contract dated January 3, 1928 to receive gas from any of the lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells that are now owned by Canadian River Gas Company which that company may desire to sell, transfer or otherwise dispose of free from the obligations of said contract dated January 3, 1928, and to consent to such sale, transfer or other disposition by Canadian River Gas Com-

pany of such lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells free from the obligations of said contract dated January 3, 1928; provided, however, such right of renouncement and consent shall not be exercised with respect to more than twenty-five percent (25%) of the lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells now owned by Canadian River Gas Company.

Seller shall not consent to the sale, transfer or other disposition free from the obligations of said contract dated January 3, 1928, of, or renounce any right it may have to receive natural gas from, any lands, gas leaseholds, gas rights, gas contracts, gas properties and gas wells in said area hereafter acquired by Canadian River Gas Company and capable of producing gas in commercial quantities unless Seller shall acquire the right equivalent in all respects to the right created by said contract to receive gas from other lands in said area of an equivalent value for natural gas purposes.

FIFTEENTH: The obligations of Seller hereunder are subject

(1) to the reservation by Canadian River Gas Company of the natural gas reserved by such Company in its contract dated January 3, 1928, with Seller;

(2) to a reservation of the quantity of natural gas required by Seller to supply its customers in and near Denver, Pueblo, and Colorado Springs, Colorado, and of any quantity of natural gas Seller may require to supply any others to whom Seller has heretofore obligated itself to supply gas.

(3) to the terms of the operating agreement between Canadian River Gas Company and the Amarillo Oil Company dated the 3rd day of January, 1928, defining their respective operating rights in leases jointly owned.

Nothing herein contained shall obligate Seller to deliver natural gas hereunder in excess of the quantity available

to it under its contract dated January 3, 1928, with Canadian River Gas Company after deducting therefrom quantities sufficient to supply the reservations herein mentioned.

Nothing in this agreement shall in any way restrict or limit the right of Seller at any time to sell, transport and deliver natural gas purchased by Seller from Canadian River Gas Company to others than Buyer, provided, however, that

(a) Seller shall give natural gas to be delivered hereunder priority over any such natural gas to be delivered under any contract or arrangement except those included in the reservations (1) and (2) hereinbefore stated, and

(b) Seller shall refrain from making hereafter and consenting that Canadian River Gas Company may make hereafter any sale or sales exclusive of those hereunder and exclusive of those for which reservations are made in this Article Fifteenth, of natural gas from the gas leaseholds, gas rights, gas contracts, gas estates and gas wells of Canadian River Gas Company in quantities in excess of eighteen billion two hundred fifty million (18,250,000,000) cubic feet per year, measured upon the basis provided in Article Eleventh hereof.

SIXTEENTH: On or before April 1 of each year Buyer shall notify Seller in writing of the estimated maximum daily quantity of gas which it expects to call upon Seller to deliver in any twenty-four (24) hour period from four (4:00) o'clock P. M. Central Standard Time of any day to the same hour of the next succeeding day during the twelve (12) months period beginning on such April 1. Buyer shall notify Seller not later than twelve (12:00) o'clock noon Central Standard Time each day of the quantity of natural gas it desires to have Seller deliver during the twenty-four (24) hour period beginning at four (4:00) o'clock P. M. Central Standard Time of such day, but the quantity specified in such notice shall not be more than

the maximum daily quantity specified in the last preceding annual notice, unless the Seller agrees to accept notice calling for the delivery of a larger quantity. Such daily notice may be given by telegraph or telephone or in writing and shall be considered to have been delivered to Seller when given to the person in charge of Seller's office at Colorado Springs, Colorado. If in any day twenty-five percent (25%) of Buyer's requirements of gas as specified in Article First shall exceed the maximum estimated quantity as specified in the last annual notice and/or the estimated quantity as specified in the daily notice for such day, Seller shall notwithstanding that fact be entitled subject to the provisions of this agreement to deliver twenty-five percent (25%) of Buyer's said requirements for that day.

If during any forty-eight (48) hour period consisting of two consecutive twenty-four (24) hour periods as above defined, the quantity of gas tendered by Seller hereunder

(a) shall be less than the aggregate of the quantities specified by Buyer in the daily notices for such consecutive twenty-four (24) hour periods, given as hereinbefore in this Article Sixteenth provided; and

(b) shall be less than one-third of the quantity delivered during such forty-eight (48) hour period to Buyer by Texoma Natural Gas Company under the agreement between Buyer and Texoma Natural Gas Company dated October 15, 1931; and

(c) shall be less than a quantity equal to twice the estimated maximum daily quantity specified in the last annual notice;

then such occurrence, unless caused by *force majeure* as defined in Article Eighteenth hereof, shall be considered for the purposes of this Article a "deficiency of delivery". Upon the occurrence of a second deficiency of delivery by Seller within any period of twelve (12) consecutive months Buyer shall have the right at its option by written notice to Seller within sixty (60) days after such deficiency of de-

livery shall have occurred either (1) to avail itself of any right or remedy to which Buyer may be entitled at law or in equity except for the cancellation of this agreement or (2) to curtail deliveries by Seller to the extent and for the period hereinafter provided. In case Buyer shall elect to curtail deliveries, the right of Seller to deliver to Buyer twenty-five percent (25%) of Buyer's requirements as provided in Article First hereof shall thereafter during the remainder of the calendar month in which such second deficiency of delivery shall have occurred and during the next succeeding eleven (11) calendar months, be diminished in proportion to the extent of such second deficiency of delivery, after which time Seller's right to deliver the full quantity specified in Article First hereof shall be restored. If during the remainder of the calendar month in which such second deficiency of delivery shall occur or during the next succeeding eleven calendar months a further deficiency of delivery shall occur, Buyer shall again have the right at its option by written notice to Seller within sixty (60) days after such further deficiency of delivery shall have occurred either (1) to avail itself of any right or remedy to which Buyer may be entitled at law or in equity except for the cancellation of this agreement or (2) further to curtail the right of Seller to deliver gas to Buyer hereunder as existing immediately prior to the occurrence of such further deficiency of delivery in proportion to the extent of such further deficiency of delivery for a further like period commencing at the time such further deficiency occurred; and so on successively in the case of further deficiencies of delivery beyond the third occurring, during the period in which the right of Seller to deliver gas to Buyer hereunder shall have been so diminished.

A deficiency of delivery shall be deemed to have occurred on the day in which the forty-eight (48) hour period shall have ended. Notwithstanding the diminution as hereinabove provided of Seller's right to deliver gas hereunder, Buyer shall have the right at any time to require that

subsequent deliveries of gas by Seller shall be increased up to a maximum equal to the quantity specified in Article First hereof, and any exercise by Buyer of such right if complied with by Seller shall to the extent of the increased quantity so requested by Buyer and supplied by Seller remove the effect of any previous deficiencies of delivery. Any failure by Seller to comply with any requirement of Buyer for increased deliveries during any period of diminution as hereinabove provided shall not create a new deficiency of delivery. No waiver or election of rights hereunder by Buyer in case of any deficiency or delivery shall prejudice or affect the rights or remedies of Buyer in case of any subsequent deficiency of delivery regardless of when such subsequent deficiency shall occur.

SEVENTEENTH: This agreement shall continue until and including September 30, 1946 and thereafter at the election of Buyer for an additional period of two (2) years upon notice by Buyer to Seller given on or before September 30, 1944, and shall continue thereafter for successive periods of two (2) years each at the election of Buyer upon notice by Buyer to Seller given not less than fourteen months prior to the beginning of each two (2) year extension of its desire for such extension.

EIGHTEENTH: In the event of either party being rendered unable wholly or in part by *force majeure* to carry out its obligations under this agreement other than to make payment of amounts due hereunder, it is agreed that on such party giving notice and full particulars of such *force majeure* in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice so far as they are affected by such *force majeure* shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "*force majeure*" as employed herein shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insur-

rections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or line of pipe, the necessity for making repairs and or alteration in machinery or lines of pipe, freezing of wells or lines of pipe, partial or entire failure of natural gas wells and any other cause whether of the kind herein enumerated or otherwise not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

NINETEENTH: If the parties hereto are unable to agree upon salvage values as provided in Article Ninth hereof and it therefore become necessary to determine the same by arbitration, then within ten days after written request of either party for such arbitration, Seller shall appoint one arbitrator and Buyer shall appoint one arbitrator and the two so chosen, within ten days after the appointment of the second of the two so chosen, shall select a third. In case either Seller or Buyer shall fail to name an arbitrator within ten days after written request of either party for such arbitration, the arbitrator appointed by the other party shall be the sole arbitrator. In case the two arbitrators chosen as above provided are unable to agree upon a third arbitrator then such third arbitrator shall be appointed by the person who is the Judge of the United States District Court for the Western District of Oklahoma. The three arbitrators may act by a majority, and the arbitrator or arbitrators, as the case may be, after notice to Seller and Buyer, shall proceed to hear and consider the matter, and shall make his or their award within ninety days after the submission of the matter and such award shall be final and conclusive upon both parties. The expense of the arbitration shall be divided equally between the parties.

TWENTIETH: Seller hereby agrees to warrant generally the title to all gas delivered hereunder, and will indemnify Buyer and save it harmless from all suits, actions, debts, accounts, damages, costs and expenses arising from or out

of the adverse claim or claims of any or all persons to said gas.

TWENTY-FIRST: All notices to be given hereunder by Seller to Buyer shall be given by registered mail or by delivering the same to Buyer at its office at 20 North Wacker Drive, Chicago, Illinois, or at such other office as may hereafter be designated by Buyer for the purpose, and, except as elsewhere herein specifically provided, all notices to be given by Buyer to Seller shall be given by registered mail or by delivering the same to Seller at its office at Colorado Springs, Colorado, or at such other office as may hereafter be designated by Seller for the purpose.

TWENTY-SECOND: This agreement may be assigned by either of the parties hereto to any person, firm or corporation acquiring all of the assets of such party, but it may not be otherwise assigned without the consent of the other party thereto. Whenever any corporation is referred to herein such reference shall be deemed to include the successors and assigns of such corporation.

TWENTY-THIRD: As between the parties hereto Seller, of those making deliveries of natural gas hereunder for it, shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby until the same shall have passed the point of connection between Seller's pipeline or the pipeline of the person or corporation making delivery for Seller and Buyer's pipelines at Gray Junction, after which Buyer shall be deemed to be in exclusive control and possession thereof and responsible for any such injury or damage.

TWENTY-FOURTH: The word "gas" wherever used herein shall mean natural gas.

IN WITNESS WHEREOF, the parties hereto have caused their names to be signed hereto and their respective corporate

seals to be affixed and attested by their respective officers thereunto duly authorized as of the date first above written.

COLORADO INTERSTATE GAS COMPANY,

[SEAL] By CHRISTY PAYNE, President.

Attest: E. E. DuVALL, Secretary.

NATURAL GAS PIPE LINE COMPANY OF AMERICA,

[SEAL] By H. O. CASTER, President.

Attest: E. E. McWHINEY, Asst. Secretary.

Colorado Interstate Gas Company Exhibit A to
Rate Schedule F.P.C. No. 8.

Lease and Operating Agreement Between Texoma Natural Gas Company and Canadian River Gas Company.
Dated October 15, 1931.

This Indenture of Lease and Operating Agreement, dated as of October 15, 1931, between TEXOMA NATURAL GAS COMPANY (hereinafter called "Lessor"), a corporation organized and existing under the laws of the State of Delaware, and CANADIAN RIVER GAS COMPANY (hereinafter called "Lessee"), a corporation organized and existing under the laws of the State of Delaware,

WITNESSETH:

WHEREAS Lessor is the owner of a certain natural gas compressor station located at a point in Hutchinson County, Texas, hereinafter specifically described, and of a certain pipe line extending from the said point to a point in Beaver County, Oklahoma, hereinafter specifically described, and of certain telephone lines and other equipment auxiliary to the compressor station and pipe line above referred to, which said property is designed to transport natural gas from the said point in Texas to the said point in Oklahoma; and

WHEREAS Lessee desires to obtain the use of an interest in the said facilities for the transportation to the said point in Oklahoma of its natural gas; and

WHEREAS the parties hereto have reached an agreement pursuant to which Lessor will lease to Lessee an interest in said property, with a further agreement by which the said property will be maintained and operated for the transportation of the natural gas of Lessor and that of Lessee between the said points upon the terms and conditions hereinafter stated;

NOW THEREFORE, for and in consideration of ten dollars (\$10.00) and other valuable considerations by each of the parties hereto to the other in hand paid, the receipt of which is hereby mutually acknowledged, and in consideration of the mutual covenants and conditions hereinafter set forth and the benefits to the parties hereto expected to result therefrom, the parties hereto do hereby agree with each other as follows:

Article 4.

Lessor by these presents demises and leases unto Lessee, its successors and assigns, an undivided twenty-five percent (25%) interest in and to the property located in the States of Texas and Oklahoma, consisting of a compressor station, a pipe line and telephone lines, and all equipment auxiliary thereto, together with all parallel lines, if any, that may hereafter be constructed, more fully described as follows:

All that pipe line together with the easements and/or rights of way for constructing, maintaining, replacing and operating the same, including all pipes, pumps, engines, buildings, structures, tanks, meters, tools and appliances, together with telephone systems, and other real and personal property used in connection therewith, described generally as follows:

Beginning at a point 3187 feet east and 670 feet north of the southwest corner of Section Five (5), Block Y-2, Tyler Tap RR Survey, Hutchinson County, Texas; said point being the center line and south face of the block gate on Lessee's intake;

Thence extending in a general northeasterly direction a distance of 165,850 feet to a point in the County line between Hutchinson and Hansford Counties, Texas;

Thence continuing in a general northeasterly direction through Hansford County, Texas, a distance of 127,971 feet to a point in the County line between Hansford and Ochiltree Counties, Texas;

Thence continuing in a general northeasterly direction through Ochiltree County, Texas, a distance of 76,333 feet to a point in the County line between Ochiltree County, Texas, and Beaver County, Oklahoma;

Thence continuing in a general northeasterly direction through Beaver County Oklahoma, a distance of 25,407 feet to a point 4257.9 feet west and 50 feet north of the southeast corner of Section Fifteen (15), Township One (1) North, Range Twenty (20) East, Beaver County Oklahoma, being the center line and southwest face of a certain main line gate valve, said point being hereinafter referred to as "Gray Junction".

A compressor station, hereinafter referred to as "Fritch Station", together with all equipment, machinery, tools, appliances and other personal property and facilities now or hereafter used or useful for the complete and proper compression and transportation to Gray, Oklahoma, of natural gas produced in the Panhandle section of Texas, irrespective of whether such additional facilities are connected to or operate independently of the herein described facilities; the compressor station herein referred to being located upon the following described property in Hutchinson County, State of Texas:

A portion of Section five (5), Block Y-2, Tyler Tap RR. Company Survey, containing 80 acres of land described by metes and bounds as follows: Beginning at a point 660 feet east and 660 feet north of the southwest corner of said Section five (5); thence north parallel with the west line of said Section, 1320 feet to a point for corner; thence east parallel with the south line of said Section, 2640 feet to a point for corner; thence south 1320 feet to a point for corner; thence west 2640 feet to the place of beginning.

Nothing herein contained shall be construed as vesting in Lessee any interest in, or to Lessor's gasoline and re-

frigerating plants located on the tract last above described, which plants are specifically excluded from this lease.

It is the intention of the parties hereto to include under the terms of this lease all compressor stations, pipe lines, telephone lines and all other equipment, facilities and installations maintained by the Lessor at any time during the continuance hereof and used or useful for the purpose of compressing natural gas at Fritch Station and transporting such natural gas from there to Gray Junction.

The estate hereinafter created in Lessee is hereinafter called the "Demised Estate", and the property of Lessor in which such estate is hereby created is hereinafter called the "Property".

TO HAVE AND TO HOLD the Demised Estate unto Lessee, its successors and assigns, for the period and upon the terms and conditions herein set forth, subject, however, in all respects to the prior lien of a certain Indenture, dated as of December 15, 1931, made by Lessor to The Chase National Bank of the City of New York, as trustee (hereinafter called the "Indenture"), to which reference is hereby made, which Indenture covers and is intended to cover the Property herein demised, together with other property of Lessor, and is made to secure an issue of bonds of Lessor, to be issued as in said Indenture provided and also subject, as to all rights-of-way, to any present or future liens which may exist or may be created by Farm Mortgages and Other Liens affecting the land covered by such rights-of-way as such terms are therein defined:

Lessor reserves the right, power and authority to mortgage or remortgage the Property from time to time for any purpose it may authorize, prior to the lien of these presents as though this lease had not been entered into, and Lessee hereby agrees to execute and deliver such further instrument or instruments subordinating this lease to the lien of any such mortgage or mortgages as shall be desired by any mortgagee or trustee or proposed mortgagee or trustee under any such mortgage and Lessee hereby irrevocably appoints Lessor the attorney-in-fact of Lessee to execute and deliver any such instrument or instruments for and on behalf of Lessee.

Article II.

The term of this lease shall begin on October 15, 1931, and shall continue until and including September 30, 1946, and thereafter, at the option of the Lessee, for successive periods of two (2) years each upon notice by Lessee to Lessor given not less than one (1) year prior to the beginning of each such two (2) year period of its desire for such extension, and such option of renewal and extension shall be considered as having been exercised unless Lessee gives Lessor notice in writing at least one (1) year prior to the beginning of such extension period of its intention not to exercise such privilege or option of renewal or extension. Lessee may at any time on thirty (30) days notice in writing to Lessor of its desire so to do, terminate this Lease and Operating Agreement.

Article III. \

Lessee covenants and agrees to pay on or before the last day of each calendar month, as rental hereunder for the next preceding calendar month, an amount equal to twenty-five percent (25%) of the interest and of the sinking fund and/or other retirement charges on all bonds, notes or other indebtedness of Lessor then outstanding, the proceeds of which are shown by Lessor's books to have been invested in the Property, in accordance with a detailed statement of the amount so payable to be presented in writing by Lessor to Lessee on or before the tenth day of the month in which the payment is due. Lessee further covenants and agrees that it will not use the herein Demised Estate for the purpose of transporting natural gas to any point other than to the property described in Article VI hereof.

Article IV.

Lessor hereby covenants and agrees that so long as there are outstanding any bonds, notes or other evidences of indebtedness secured by lien or mortgage upon any of the Property it will pay and discharge the principal and interest thereof when and as the same become due and payable and will in all respects comply with and perform all of the covenants and provisions on its part to be performed and complied with under the terms of any such mortgage

or mortgages. In the event that Lessor shall at any time during the continuance of this lease fail to pay promptly upon the day when the same becomes due any installment of interest or any other sum due from it under the terms of any mortgage upon the Property, Lessee may, but shall be under no obligation to, pay the same for the account of Lessor and deduct such payment with interest at the rate of six percent (6%) per annum from any amounts thereafter due from Lessee to Lessor hereunder. Lessor agrees to comply with and conform to all laws and ordinances of any municipality or other governmental authority affecting the Property. Lessee shall at all times during the term hereof have the right, but shall not be under obligation to pay, cancel and clear off all liens, charges and claims upon and against the Property on account thereof or arising therefrom, and to redeem the Property from any sales on account thereof or arising therefrom, from time to time, and any amount so paid by Lessee, including reasonable expenses and interest, may be deducted by Lessee from any amounts thereafter due from Lessee to Lessor hereunder. All sums so paid by Lessee shall bear interest at the rate of six percent (6%) per annum from the date of such payment so long as they remain unpaid by Lessor, and the same may be collected by suit at law or in any other legal way.

Article V.

Upon Lessee's failure to pay the rental herein required to be paid by it when the same is due, or upon Lessee's failure to comply with any of the conditions of this Lease and Operating Agreement the same may, at the option of Lessor, be terminated by proceeding as follows: Lessor shall cause written notice to be personally served on the President, Vice President, Secretary or Treasurer of Lessee, stating specifically the cause for terminating this Lease and Operating Agreement and declaring it to be the intention of Lessor to terminate the same. Thereupon Lessee shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in such notice for terminating this Lease and Operating Agreement, and if within said period of thirty (30) days Lessee does so remedy or remove said cause or

causes, then such notice shall be withdrawn and this Lease and Operating Agreement shall continue in full force and effect. If Lessee does not so remedy and remove the cause or causes of default within said period of thirty (30) days, then this Lease and Operating Agreement shall become null and void from and after the expiration of said period. The failure or omission of Lessor to exercise the rights in this paragraph contained shall not operate to bar, abridge or destroy the right of Lessor to give notice of any subsequent breach of any of the conditions of this Lease and Operating Agreement by Lessee.

Article VI.

Lessor shall have the right to sell or otherwise dispose of any part of the Property free from the lien hereof and of any mortgage thereon without the consent of Lessee, upon compliance with the terms and provisions of such mortgage, and the basis of computing the rental or other sums payable by Lessee hereunder shall not thereby be reduced or otherwise affected, provided that Lessor shall not sell or dispose of any of the Property without substituting therefor other property and/or equipment, to the end that the efficient operation of the aforesaid-described pipeline and compressor station shall at all times continue and be available to Lessee for the delivery of any gas which it may be required to deliver to a purchaser taking delivery at any point located on the following described tract with the consent of the owner of the said tract, viz.: the east thirty (30) acres of the northwest quarter (NW $\frac{1}{4}$) of the northeast quarter (NE $\frac{1}{4}$) of section fifteen (15), township one North (T1N), range twenty east (R20E), in Beaver County, Oklahoma.

Article VII.

Lessor shall operate, maintain and keep in a good and reasonable state of repair the Property during the term hereof, upon the terms and conditions hereinafter set out. The parties hereto shall at all times during the term hereof have joint possession of the Property, and nothing in this Lease and Operating Agreement contained shall be deemed to, or shall, affect such right of possession.

Article VIII.

Lessee covenants and agrees to pay to Lessor on or before the last day of each calendar month that part of the cost to Lessor, as shown by its books, of operating, repairing and maintaining the Property for the next preceding calendar month, in accordance with a detailed statement of such cost to be presented in writing by Lessor by the tenth day of the month in which the payment is due, which bears the same proportion to the total amount of such cost which the quantity of gas delivered by Lessee to Fritch Station during such preceding calendar month bears to the total quantity of gas delivered to said Station during such month.

Article IX.

Any payment by Lessee under Article III or Article VIII hereof shall not prejudice the right of either party to adjustment of any statement to which it has taken exception or may within six (6) months after presentation thereof take exception. Should Lessee fail to pay any amount due to Lessor when the same is due, interest thereon shall accrue at the rate of six percent (6%) per annum from the date when such amount is due until the same is paid.

Article X.

Lessee may, at all reasonable times audit the books of Lessor to determine the accuracy of its records insofar as they concern the payment of any amounts due or claimed to be due from Lessee hereunder and to satisfy itself as to the proper operation of the Property.

Article XI.

The parties agree that the conditions upon which they shall respectively deliver natural gas into the Property at Fritch Station are as follows:

SECTION 1. All natural gas delivered to Fritch Station by Lessor, Lessee and any others shall be separately measured near the intake side of said Station.

SECTION 2. Such gas shall be raw natural gas as produced in its natural state from the wells and

(a) shall be commercially free from solid and/or liquid matter;

(b) shall not contain more than one (1) grain of hydrogen sulphide per one hundred (100) cubic feet; provided that this purity requirement shall be considered as satisfied if a strip of white filter paper, recently moistened with a solution of one hundred (100) grains of lead acetate in one hundred (100) cubic centimeters of water, be exposed to the gas for one and one-half (1½) minutes in an apparatus previously purged, through which the gas is flowing at the rate of approximately five (5) cubic feet per hour, the gas not impinging from a jet upon the test paper, and after this exposure the test paper is found not distinctly darker than a second paper freshly moistened with the solution and not exposed to the gas;

(c) shall not contain more than thirty (30) grains of total sulphur per hundred (100) cubic feet;

(d) shall not contain an amount of moisture at any time exceeding that corresponding to saturation at the natural temperature of the gas in the main pipe line at Lessee's meter and at the pressure at such point, and that the water shall not be present in liquid phase; provided, however, that each party may before delivery of its natural gas treat said gas in order to bring it within the standards of purity hereinabove in this Article specified and may extract helium therefrom; and provided, further, that in the event that any portion of the natural gas delivered by Lessor at any time to Fritch Station shall contain a greater amount of hydrogen sulphide and/or a greater amount of total sulphur than the amounts specified herein, Lessee during the period of such delivery by Lessor shall be privileged to deliver to Fritch Station a like portion of natural gas of the same sulphur content, but shall not deliver the same to Fritch Station commingled with any other gas then being there delivered by it which conforms to the requirements as to sulphur content first hereinabove in this Article stated, unless Lessor shall at the time be delivering to Fritch Station such gases in such commingled state.

SECTION 3. Lessor shall make tests for sulphur content at least once each day of the natural gas delivered to Fritch Station by it and by Lessee, and shall promptly advise Lessee of the result of any test which shows a sulphur content in the gas in excess of the above requirements. Lessee shall be notified of the time and place of all such tests and shall be afforded an opportunity to have its representative present at the same. Should such tests at any time disclose the presence in the gas being delivered by Lessee of hydrogen sulphide or of total sulphur in excess of such requirements then Lessor may, upon advising the person in charge of the office of Lessee at Amarillo, Texas, by telegraph, telephone or in writing, refuse to receive further deliveries of natural gas from Lessee at Fritch Station until such time as the natural gas of Lessee at the point of intake into Fritch Station shall conform to the foregoing sulphur content requirements.

SECTION 4. The raw natural gas to be delivered to Fritch Station by Lessee shall contain sufficient heat units so that after any gasoline therein contained shall have been extracted therefrom by or on behalf of Lessee, such natural gas will contain not less than one thousand (1000) British thermal units per cubic foot, at an assumed absolute pressure of fourteen and sixty-five hundredths (14.65) pounds per square inch and at a base temperature of sixty degrees Fahrenheit (60° F.), except that if Lessor shall at any time deliver to Fritch Station raw natural gas having a British thermal unit content of less than the amount so specified to be delivered to Fritch Station by Lessee, then Lessee shall during the period of delivery by Lessor of such gas have the privilege of delivering to Fritch Station raw natural gas having such lessor British thermal unit content.

It is understood and agreed by the parties that in the process of extracting gasoline from the raw natural gas a certain number of the heat units will be taken therefrom. For the purpose of making computations hereunder thirty-five (35) British thermal units per cubic foot of the raw natural gas shall be deemed to be the amount so taken. At the end of any calendar year hereafter, the number of British thermal units which are deemed to be so removed in the extraction of gasoline may be changed by agreement

of the parties hereto so as to conform to the conditions then existing which affect the number thereof.

For the purpose of determining the British thermal unit content of the raw natural gas delivered respectively by the parties hereto to Fritch Station, hourly tests shall be made by Lessor from samples taken from the pipeline or pipelines of the parties hereto near the intake side of Fritch Station. Lessee shall be notified of the time and place of all such tests and shall be afforded an opportunity to have its representative present at the same. If such tests show an hourly average British thermal unit content in such gas in any twenty-four (24) hour period, at the pressure and temperature above specified, equal to one thousand (1000) British thermal units per cubic foot plus thirty-five (35) British thermal units per cubic foot or such other number of British thermal units per cubic foot as shall at the time of such test be agreed to represent the number of British thermal units which will be taken from the raw natural gas in the subsequent extraction of gasoline therefrom, the gas then being delivered by Lessee to Fritch Station shall be accepted as complying with the requirements of this Article.

SECTION 5. In the event that the hourly average of the British thermal unit content of the raw natural gas delivered to Fritch Station by Lessee in any twenty-four (24) hour period is less than the amount specified in the foregoing Section (4) of this Article, Lessor may immediately advise the person then in charge of the office of Lessee at Amarillo, Texas, by telegraph, telephone or in writing of such condition and if within forty-eight (48) hours after such advise, the British thermal unit content of the natural gas as determined by a test or tests made as above specified still fails to meet the foregoing requirements, Lessor may upon further advice to Lessee, given in like manner, of its intention so to do, refuse to receive from Lessee further deliveries of gas at Fritch Station until such time as further tests made as above specified shall disclose that the gas then tendered for such delivery by Lessee conforms to the said British thermal unit requirement.

SECTION 6. Lessee shall deliver the said raw natural gas to Fritch Station at a gauge pressure of not less than one hundred and fifty (150) pounds per square inch.

Article XII.

SECTION 1. For the purpose of accomplishing the measurement of the natural gas delivered by the respective parties to Fritch Station, as provided in Section 1 of Article XI hereof, the parties hereto shall respectively furnish, install, operate and maintain, at their separate cost and expense, metering stations properly equipped with orifice meters and recording gauges or such other type of meters of standard make as may be mutually agreed upon, located at or near the intake side of Fritch Station, and on their respective pipe lines. The quantities of natural gas measured by such respective meters shall be deemed to be the quantities of natural gas delivered by the parties respectively to Fritch Station, and such quantities shall be used in computing the charges provided for in Article VIII hereof.

SECTION 2. The metering equipment so installed by the parties, together with any buildings erected by them for such equipment, shall be and remain the property of the party so installing and erecting such equipment and buildings. Each party shall have access to said metering equipment of the other party at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by the employees, agents or representatives of the party installing and operating the metering equipment. Charts and records from such metering equipment shall remain the property of the respective parties. Upon request of either party, the other party shall submit to it records and charts from said metering equipment, together with calculations therefrom, for its inspection and verification, subject to return within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file for the mutual use of both parties. At least once each month and on a date as near the first of the month as practicable, each party shall calibrate its meters or cause its meters to be calibrated in the presence of a representative of the other party and the parties shall jointly observe any adjustments which are made in the meters should such adjustments be necessary, and if the check meters hereinafter provided for have been installed, the same shall be calibrated by the party operating the check metering equipment in the presence of a representative of the other party and any adjustments joint-

ly observed should such adjustments be necessary. For purposes of measurement and of meter calibration the atmospheric pressure shall be assumed to be thirteen (13) pounds per square inch irrespective of variations in the actual atmospheric pressure from time to time. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party, and the parties will then cooperate to secure an immediate calibration test and joint observation of any adjustments. Each party shall give to the other notice of the time of all tests of meters sufficiently in advance of holding the tests so that the other may conveniently have its representative present. If upon any test any metering equipment is found to be inaccurate by two per cent (2%) or more, but not otherwise, registrations thereof and any payments based on such registrations shall be corrected at the rate of such inaccuracy for any period of inaccuracy which is definitely known and agreed upon, but in case the period thereof is not definitely known and agreed upon, then for a period extending back one-half of the time elapsed since the last date of calibration, not exceeding, however, fifteen (15) days. Following any test any metering equipment found inaccurate shall immediately be adjusted to measure accurately. If for any reason meters are out of service and/or out of repair so that the quantity of natural gas cannot be ascertained or computed from the reading thereof, the quantity of natural gas delivered through the period such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available using the first of the following methods which is feasible:

(a) by correcting the error if the percentage of error is ascertainable by calibration, test or mathematical calculation;

(b) by using the registration of any check meter or meters if installed and accurately registering;

(c) by estimating the quantity of deliveries by deliveries during preceding periods under similar conditions when the meter was registering accurately.

SECTION 3. The unit of volume of natural gas delivered to Fritch Station by the respective parties shall be one (1) cubic foot of natural gas at a base temperature of sixty degrees Fahrenheit (60° F.) and at an absolute pressure of sixteen and four-tenths (16.4) pounds per square inch, and the readings and registrations of the metering equipment herein provided for shall be computed into such units. The true physical characteristics of the natural gas which affect such computations, including deviations from Boyle's Law, shall be given each its due consideration, and the determination of such physical characteristics shall be made in such manner and with such apparatus as is satisfactory to both parties, which shall be preferably in a manner and with apparatus approved by the United States Bureau of Standards. The temperature of the natural gas flowing through the meters of each party shall be obtained by the use of recording thermometers so installed that they will properly record such temperature. The average temperature so recorded each day shall be used in computing measurements for that day. The specific gravity of the natural gas delivered to Fritch Station by each party shall be determined by such party at or near the point of metering at least once each day. Each party shall advise the other of the time at which specific gravity tests are to be made in order that the other may conveniently have its representative present. The Edwards type specific gravity balance or other equipment acceptable to both parties shall be used.

SECTION 4. Either party may at its option and at its cost and expense install and operate check metering equipment to verify the measurement of the natural gas delivered by the other party to Fritch Station, but the metering equipment installed by or for the party delivering the gas shall be used for determining the quantities of natural gas delivered by it under this agreement. The check metering equipment so installed, together with any buildings erected for such equipment, shall be and remain the property of the party installing it. The check meters may be of orifice type or of such other standard type for the measurement of natural gas as is approved by both parties. In the event check metering equipment is installed by either party, the other shall have access to the same at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by employees

or agents of the party installing it. Charts and records from said check metering equipment shall remain the property of the party installing it. Upon request of either party, the other will submit to the party making the request records and charts from its metering equipment together with calculations therefrom for the other's inspection and verification, subject to return within ten (10) days after receipt thereof.

Article XIII.

The total heating value of the natural gas delivered by each party to Fritch Station shall be determined hourly by Lessor at or near the intakes to said station as near the beginning of each hour as is practicable, by means of a Thomas recording calorimeter. The accuracy of the Thomas recording calorimeter shall be checked daily by means of a Junkers type of flow calorimeter operated according to the method of the United States Bureau of Standards. The Thomas and Junkers type calorimeters shall be installed, maintained and operated by and at the expense of Lessor. If at any time the Thomas recording calorimeter is out of service or not operating properly for any reason, hourly determinations of total heating value shall be made by the Junkers calorimeter and these hourly determinations shall be used in computing averages. The Thomas recording calorimeter shall be deemed operating properly when its recorded heating value does not vary from the total heating value as determined by the Junkers type of flow calorimeter by more than ten (10) British thermal units per cubic foot. Lessee shall have the right to examine Lessor's calorimeter equipment and test records at any reasonable hour and to be present at all tests and adjustments of such calorimeter equipment.

Article XIV.

Lessee shall give to Lessor on or before the eighth day of each month a statement of the quantity of natural gas delivered to Fritch Station by it during the preceding calendar month and shall accompany said statement with the supporting charts, which charts shall be returned to Lessee after examination.

Article XV.

In the event of either party being rendered unable wholly or in part by *force majeure* to carry out its obligations under this lease and operating agreement other than to make payments of amounts due hereunder, it is agreed that on such party giving notice and full particulars of such *force majeure* in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice so far as they are affected by such *force majeure*, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "*force majeure*" as employed herein shall mean acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, the necessity for making repairs and/or alterations in machinery or lines of pipe, freezing of lines of pipe and any other cause, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

Article XVI.

All notices to be given hereunder by Lessee to Lessor shall be given by registered mail or by delivering the same to Lessor at its office at Amarillo, Texas, or at such other office as may be hereafter designated by Lessor for the purpose, and all notices to be given by Lessor to Lessee, except as herein specifically provided otherwise, shall be given by registered mail or by delivering the same to Lessee at its office at Amarillo, Texas, or at such other office as may be hereafter designated by Lessee for the purpose.

Article XVII.

Lessor shall indemnify and save Lessee harmless from any damage or injury caused in the transportation of natural gas from the time such natural gas is delivered by Lessee into the Property at Fritch Station until such natural gas is delivered out of the Property at Gray Junction.

Article XVIII.

This Lease and Operating Agreement may be assigned by either of the parties hereto to any person, firm or corporation acquiring all of the assets of such party, but it may not be otherwise assigned without the written consent of the other party hereto. Whenever any person, firm or corporation is referred to herein such reference shall be deemed to include the successors and assigns of such person, firm or corporation.

IN WITNESS WHEREOF, the parties hereto have caused their names to be signed hereto, and their respective corporate seals to be hereunto affixed and attested by their respective officers thereunto duly authorized, as of the date first above written.

TEXOMA NATURAL GAS COMPANY,
By H. O. CASTER, President.

[Seal]

Attest:

C. C. KELLEY, Secretary.

CANADIAN RIVER GAS COMPANY,
By N. K. MOODY, Vice-President.

[Seal]

Attest:

VICTOR A. IBOE, Secretary.

Colorado Interstate Gas Company Supplement No. 1-A.
Effective date December 1, 1931. Filing date February 1,
1939 to Rate Schedule FPC No. 8.

Continental Construction Corporation
20 N. Wacker Drive
Chicago, Illinois.

60 Wall Street, New York, N. Y., December 22, 1931.

Mr. Christy Payne, President Colorado Interstate Gas Company, 26 Broadway, New York City.

Dear Mr. Payne: We propose for your acceptance that that part of the gas purchased by this Company from Colorado Interstate Gas Company under our October 15, 1931 contract, for the sale of natural gas at Gray, Oklahoma, which is equal to 25% of the gas marketed by us as "industrial dump", shall, for a period of two years from and after December 1, 1931, be paid for at the price of four (4) cents per M.C.F., and for three years thereafter, at 4

price of five (5) cents per M.C.F., instead of the price named in our said contract of October 15, 1931. This is in accordance with the agreement reached with Mr. N. K. Moody on November 19, 1931.

The quality, pressure base, point of delivery and other terms of purchase and sale shall conform to those embodied in the said gas purchase contract dated October 15, 1931.

If the above terms governing this supplementary agreement are satisfactory will you please signify your acceptance by executing and returning one copy?

Very truly yours .

NATURAL GAS PIPELINE CO. OF AMERICA,
By: FLOYD C. BROWN, Vice President

Accepted: .

COLORADO INTERSTATE GAS COMPANY,
By: CHRISTY PAYNE, President.

Colorado Interstate Gas Company Supplement No. 1-B.
Effective date December 1, 1936. Filing date February 1,
1939, to Rate Schedule FPC No. 8 (Supersedes Supplement
No. 1-A to Rate Schedule FPC No. 8).

Natural Gas Pipeline Company of America
20 N. Wacker Drive
Chicago, Illinois

October 27, 1932.

Mr. Christy Payne, President, Colorado Interstate Gas
Company, 26 Broadway, New York City, N. Y.

Dear Mr. Payne: We propose for your acceptance that the letter of agreement, dated December 22, 1931, between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, concerning the sale to us of twenty-five per cent (25%) of the gas marketed by us as "industrial dump", be extended for an additional period of one (1) year, so that the price which we shall pay to you for such gas shall, for a period of two (2) years from and after December 1, 1931, be four cents (4c) per M. C. F., and for four (4) years thereafter be five cents (5c) per M. C. F., instead of the price set forth in the contract between said companies, dated October 15, 1931. Otherwise, the provis-

ions of said letter of agreement of December 22, 1931, shall remain unchanged.

If this proposal is satisfactory to you, will you please signify your acceptance by executing and returning one copy of this letter to us.

Very truly yours,

NATURAL GAS PIPELINE COMPANY
OF AMERICA,

By FLOYD C. BROWN,
Vice-President.

Accepted:

COLORADO INTERSTATE GAS COMPANY,
By CHRISTY PAYNE, President.

Colorado Interstate Gas Company Supplement No. 1-C,
Effective date December 1, 1933. Filing date February 1,
1939 to Rate Schedule FPC No. 8 (Supersedes Supplement
No. 1-B to Rate Schedule FPC No 8).

Natural Gas Pipeline Company of America
20 N. Wacker Drive
Chicago, Illinois

November 9, 1933.

Mr. R. W. Gallagher, Room 1543—26 Broadway, New York,
N. Y.

Dear Mr. Gallagher, We propose for your acceptance that the letter form of agreement dated October 27, 1932, between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, concerning the sale to us of twenty-five per cent (25%) of the gas marketed by us as "industrial dump", shall be modified to provide that the price we pay to you for

(a) natural gas for boiler fuel shall be three and one-half cents (3½c) per M.C.F. for a period of two (2) years from and after December 1, 1933, and five cents (5c) per M.C.F. for the next two (2) years thereafter, and

(b) natural gas for other "industrial dump" uses shall be five cents (5c) for four (4) years from December 1, 1933 as heretofore agreed.

Otherwise, the provisions of said letter of agreement of October 27, 1932 shall remain unchanged. The quality, pressure base, point of delivery and other terms of purchase and sale shall conform to those embodied in the gas purchase contract between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, dated October 15, 1931.

If the above terms governing this supplementary agreement are satisfactory, will you please signify your acceptance by executing and returning one copy of this letter.

Yours very truly,

NATURAL GAS PIPELINE COMPANY
OF AMERICA,

By: FLOYD C. BROWN,
Vice-President.

Accepted:

COLORADO INTERSTATE GAS COMPANY,

By: R. W. GALLAGHER, President.

Colorado Interstate Gas Company Supplement No. 2.
Effective date October 2, 1934. Filing date August 19, 1938
to Rate Schedule FPC No. 8.

Natural Gas Pipeline Company of America

20 N. Wacker Drive

Chicago, Illinois

Phone Randolph 0278-L.D.411

October 2nd, 1934.

Colorado Interstate Gas Company, Colorado Springs, Colorado.

Att: Mr. Frank J. Trelease

Gentlemen: The Gas Purchase Contract between Natural Gas Pipeline Company of America and Colorado Interstate Gas Company, dated as of October 15, 1931, in paragraph Eleventh thereof provides:

"The specific gravity of the natural gas shall be determined or caused to be determined by Seller at or near the point of metering at least once each day. Seller shall advise Buyer of the time at which specific gravity tests are to be made in order that Buyer may

conveniently have its representative present. The Edwards type specific gravity balance or other equipment acceptable to both parties shall be used."

I believe that you understand that the daily tests at Fritch are being made by Texoma Natural Gas Company, whose laboratory is so occupied with the daily tests that little time remains for other work found essential. This other work could be performed with additional help, but in an endeavor to economize we are proposing that the specific gravity tests provided for daily in the Gas Purchase Contract be performed bi-weekly instead of daily for so long a time as shall be agreeable to the respective parties, and if at any time either of the parties desire to revert to the daily tests that can be done by either party notifying the other of its desire. We do not believe that any material accuracy will be sacrificed in performing these tests bi-weekly instead of daily. It is our desire to effect this change at the earliest possible date on account of economic reasons and your earliest attention to this matter will be appreciated.

If the above arrangement is satisfactory, kindly have an officer of your company execute the acceptance in the space provided for below on the extra copy which is enclosed to you herewith and return it to us at which time we will immediately make effective the proposed change.

Yours very truly,

FLOYD C. BROWN,
Vice-President and General
Manager.

Accepted:

COLORADO INTERSTATE GAS COMPANY,

By F. H. LERCH, JR., Vice-President.

FCB:cg

Colorado Interstate Gas Company Supplement No. 3.
Effective date September 4, 1935. Filing date August 19,
1938 to Rate Schedule FPC No. 8.

Natural Gas Pipeline Company of America

20 N. Wacker Drive

Chicago, Illinois

Phone Randolph 0278-L.D.411

September 4, 1935

Colorado-Interstate Gas Company, Colorado Springs, Colorado.

Dear Sirs: With reference to the agreement between our respective companies dated October 15, 1931 covering the sale of natural gas to this company, Article Fifth of said agreement provides that the volume of natural gas to be paid for by Buyer to Seller under said agreement for any month shall be the volume of natural gas delivered during such month by Canadian River Gas Company to Fritch Station as computed from the readings of the meters for which provision is made in Article Eleventh of said agreement.

We are informed by Canadian River Gas Company that said company desires to deliver a portion of such natural gas to the Fritch Station of Texoma Natural Gas Company by first delivering it at a connection into the main gathering line of Texoma Natural Gas Company near the Northeast Corner of Section 100, Block 5, I&GN RR Company Survey, in Carson County, Texas; such portion to be so delivered to be that quantity of natural gas which Canadian River Gas Company can lawfully deliver at said connection from what is known as the Sanford well in Section 11, Block 3, AB&M Survey, in Carson County, Texas. It is contemplated that Texoma Natural Gas Company will in turn deliver such natural gas from said Sanford well into Texoma's Fritch Station through its own gathering system and meter.

This company is agreeable to such arrangement; provided, however, that such delivery of natural gas into Texoma's gathering system shall be only such quantity as Canadian River is able to put into Texoma's said gathering system against the varied working pressures therein, and the quantity of such natural gas shall be that quantity measured by a meter placed at such point of connection. Measurements shall be in accordance with the said agreement dated October 15, 1931 above referred to.

The said meter and necessary measuring equipment and facilities shall be installed and maintained by and shall be the property of said Canadian River Gas Company but the changing of charts shall be done by employees of Texoma Natural Gas Company, which charts shall be given by Texoma Natural Gas Company to Canadian River Gas Company immediately after it has finished with its use thereof.

If the above is acceptable to your company, kindly so indicate in the space provided for below.

Very truly yours,

NATURAL GAS PIPELINE COMPANY
OF AMERICA,

By: FLOYD C. BROWN,
Vice-President and General
Manager.

Accepted as of the 4th day of September, 1935.

COLORADO-INTERSTATE GAS COMPANY,

By H. C. COOPER, President.

Colorado Interstate Gas Company Supplement No. 1.
Effective date September 4, 1935. Filing date February
1, 1939 to Exhibit A to Rate Schedule FPC No. 8.

Texoma Natural Gas Company
405 Rule Building
Amarillo, Texas

September 4, 1935.

Canadian River Gas Company, Exchange National Bank
Building Tulsa, Oklahoma.

Dear Sirs: With reference to the two agreements between our respective companies, each dated October 15, 1931, known respectively as the Lease and Operating Agreement and the Gasoline Plant Operating Agreement, both of which agreements contemplate that the quantity of natural gas delivered by Canadian River to the Fritch Compressor Station of Texoma shall be the quantity of natural gas measured by Canadian River's meter at said Fritch Station, we are informed that Canadian River desires to deliver a portion of such natural gas to Texoma's Fritch Station by

first delivering it at a connection into the main gathering line of Texoma near the Northeast Corner of Section 100, Block 5, I&GN RR Company Survey, in Carson County, Texas; such portion to be so delivered to be that quantity of natural gas which Canadian River can lawfully deliver at said connection from what is known as the Sanford well in Section 11, Block 3, AB&M Survey, in Carson County, Texas. It is contemplated that Texoma will in turn deliver such natural gas from said Sanford well into Texoma's Fritch Compressor Station through its own gathering system and meter.

Texoma is agreeable to such arrangement; provided, however, that such delivery of natural gas into Texoma's gathering system shall be only such quantity as Canadian River is able to put into Texoma's said gathering system against the varied working pressures therein, and the quantity of such natural gas shall be that quantity measured by a meter placed at such point of connection. Measurements shall be in accordance with the unit of measurement described in Section 3, Article XII of said Lease and Operating Agreement.

The said meter and necessary measuring equipment and facilities shall be installed and maintained by Canadian River and shall be the property of Canadian River but the changing of charts shall be done by employees of Texoma Natural Gas Company, which charts shall be given by Texoma Natural Gas Company to Canadian River Gas Company immediately after it is has finished with its use thereof.

If the above is acceptable to your company, kindly so indicate in the space provided for below.

Yours very truly,

TEXOMA NATURAL GAS COMPANY,
By: FLOYD C. BROWN,
Vice-President and General
Manager.

Accepted this 12th day of Sept., 1935.

CANADIAN RIVER GAS COMPANY,
By: P. C. SPENCER, Vice President.

Colorado Interstate Gas Company Supplement No. 1-D.
Effective date December 1, 1937. Filing date October 22,
1938 to Rate Schedule FPC No. 8. (Supersedes Supplement
No. 1-C to Rate Schedule FPC No. 8)

Natural Gas Pipeline Company of America
20 N. Wacker Drive
Chicago, Illinois

January 30, 1936.

Colorado Interstate Gas Company, Room 2800, 30 Rockefeller Plaza, New York, New York.

Dear Sirs: We propose for your acceptance that the letter form of agreement dated November 9, 1933, between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, concerning the sale to us of twenty-five per cent (25%) of the gas marketed by us as "industrial dump", shall be modified to provide that the price we pay to you for

(a) natural gas for boiler fuel shall for the period from December 1, 1935 to December 31, 1938 be five cents (5¢) per MCF., and

(b) natural gas for other "industrial dump" uses shall for the period from December 1, 1935 to December 31, 1938 be five cents (5¢) per MCF.

The quality, pressure base, point of delivery and other terms of purchase and sale shall conform to those embodied in the gas purchase contract between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, dated October 15, 1931.

If the above terms governing this supplementary agree-

ment are satisfactory, will you please signify your acceptance by executing and returning one copy of this letter.

Yours very truly,

NATURAL GAS PIPELINE COMPANY
OF AMERICA,

By: FLOYD C. BROWN,
Vice-President.

Accepted:

COLORADO-INTERSTATE GAS COMPANY,
By F. H. LERCH, JR., Vice-President.

Colorado Interstate Gas Company Supplement No. 1-E.
Effective date January 1, 1939. Filing date August 19,
1938 to Rate Schedule FPC No. 8. (Supersedes Supplement
No. 1-D to Rate Schedule FPC No. 8).

Natural Gas Pipeline Company of America
20 N. Wacker Drive
Chicago, Illinois
Phone Randolph 0278-L.D.411

March 26, 1937

Colorado Interstate Gas Company, Room 2953, 30 Rockefeller
Plaza, New York, New York.

Dear Sirs: We propose for your acceptance that the
letter form of agreement dated January 30, 1936, between
Colorado Interstate Gas Company and Natural Gas Pipeline
Company of America, concerning the sale to us of
twenty-five per cent (25%) of the gas marketed by us as
"industrial dump," shall be modified to provide that the
price we pay to you for

(a) Natural gas for boiler fuel for the period from
December 1, 1935 to December 31, 1939, shall be five
cents (5¢) per M.C.F.,

(b) Natural gas for other "industrial dump" uses
shall for the period from December 1, 1935 to December
31, 1939, be five cents (5¢) per M.C.F.

—The quality, pressure base, point of delivery and other
terms of purchase and sale shall conform to those embodied
in the gas purchase contract between Colorado Interstate

Gas Company and Natural Gas Pipeline Company of America, dated October 15, 1931.

If the above terms governing this supplementary agreement are satisfactory, will you please signify your acceptance by executing and returning one copy of this letter.

Yours very truly,

NATURAL GAS PIPELINE COMPANY OF
AMERICA,

By: FLOYD C. BROWN,
Vice-President.

Accepted:

COLORADO-INTERSTATE GAS COMPANY,

By F. H. LERCH, JR., Vice-President.

Colorado Interstate Gas Company Supplement No. 1-F.
Effective date January 1, 1940. Filing date August 19,
1938 to Rate Schedule FPC No. 8. (Supersedes Supplement
No. 1-E to Rate Schedule FPC No. 8.)

Natural Gas Pipeline Company of America
20 N. Wacker Drive
Chicago, Illinois

July 27, 1938.

Colorado Interstate Gas Company, Room 2800, 30 Rockefeller Plaza, New York, New York.

Dear Sirs: Under the existing letter agreement dated March 26, 1937 between Colorado Interstate Gas Company and Natural Gas Pipeline Company of America, natural gas equal to 25% of the natural gas marketed by us as boiler fuel and special interruptible industrial gas is being sold to us at a price of 5¢ per M.C.F. for the period expiring December 31, 1939.

We propose that such letter agreement be extended so that for the period extending until December 31, 1941 all of such gas shall be paid for by us at the price of 5¢ per M.C.F., instead of the price named in the agreement between us dated October 15, 1931.

The quality, pressure base, point of delivery and other

terms of purchase and sale shall conform to those embodied in the gas purchase contract between us dated October 15, 1931, as modified from time to time.

If the above terms governing this matter are satisfactory, will you please signify your acceptance by executing and returning one copy of this letter.

Very truly yours,

NATURAL GAS PIPELINE COMPANY OF
AMERICA,

By: FLOYD C. BROWN,
Vice-President.

Accepted:

COLORADO-INTERSTATE GAS COMPANY.

By F. H. LERCH, JR. 8/9/38
Vice-President.

Beginning on about December 10, 1925, Colorado-Wyoming purchased gas out of the "Wellington" gas field in Colorado; and transported it by pipe line approximately 14 miles to Fort Collins, Colorado, and sold it at the city gate to the distributing company, Poudre Valley Gas Company, and co-incidentally sold gas to Portland Cement Company near Fort Collins. Gas purchases from the Wellington field declined each year as the field became depleted, and they ceased in March, 1937. In 1930, Colorado-Wyoming made other arrangements to get gas from the Berthoud field in Colorado, but purchases from this field also declined, due to the depletion of the field, and now are only two per cent of Colorado-Wyoming's requirements. In 1926 Colorado-Wyoming also began purchasing natural gas from the Wellington, Colorado field, which purchases continued in diminishing quantities until 1937. The witness Bosworth, in Exhibit 120, described Colorado-Wyoming's history, including its discovery well in the Wellington field, its investment in, and the construction of its properties, and the gradual exhaustion of the field. Colorado-Wyoming entered into a contract with Colorado Interstate for a supply of gas, dated October 3, 1929, Exhibit 7-F herein.

Exhibit 7-F

Federal Power Commission
Rate Schedule F. P. C. No. 3
Exhibits and Supplements.

Filed By
Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold To
Colorado-Wyoming Gas Company,
Denver, Colorado.

This schedule consists of Agreement dated October 3, 1929, Supplemental Agreement dated October 8, 1929, Supplemental Letters dated respectively February 5, 1930, May 5, 1930, May 8, 1930, May 12, 1930, March 28, 1938, March 29, 1938, June 30, 1938, and Schedule of approved rate applicable to Colorado Portland Cement Company, and Letter dated August 25, 1939, which provide for the sale to Colorado-Wyoming Gas Company of all the natural gas requisite to supply consumers in northern Colorado, and southern Wyoming, under the terms and conditions set forth therein.

Colorado Interstate Gas Company Rate Schedule FPC No. 3 Effective date September 28, 1929. Filing date August 19, 1938.

This Agreement made and entered into this 3rd day of October, A. D., 1929, by and between Colorado Interstate Gas Company, a Delaware corporation hereinafter called the Seller, party of the first part, and Colorado Wyoming Gas Company, a Delaware corporation, hereinafter called the Buyer, party of the second part.

Whereas, the Seller now has undisposed of and available for sale, in and through its pipe line, a supply of natural gas in excess of the deliveries now required of it, under commitments heretofore made by it and particularly those certain contracts entered into by it with Public Service Company of Colorado and The Pueblo Gas and Fuel Company, both of date of 3rd day of January, 1928, and a cer-

tain application for natural gas by the Colorado Fuel & Iron Company made to, and after agreed modifications, accepted by Ford, Bacon & Davis, Inc. and assigned June 5th, 1928 to and accepted by Seller with the consent of said Colorado Fuel & Iron Company, and the Seller is now able to deliver such gas to the Buyer and the Buyer desires to purchase and receive from the Seller natural gas, as hereinafter provided, and

Whereas, the Buyer is about to expend substantial sums to prepare and equip itself to connect with and make such deliveries of natural gas from the facilities of the Seller as the Buyer may require to satisfy the present and future demands of its customers in northern Colorado and southern Wyoming, as hereinafter provided, and

Whereas, thereafter the Buyer will be able by reason of its pipe line connection with the pipe line of Seller to render emergency service to Seller for the maintenance of its deliveries to Public Service Company of Colorado at Denver, Colorado, in the event of a temporary breakdown of Seller's pipe line and to the extent of natural gas available to the Buyer from sources of supply other than the Seller, in excess of the requirements of the Buyer's customers, including distributing customers, for domestic purposes.

Now, Therefore, the parties hereto in consideration of the covenants and payments herein set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the other, receipt of which is hereby acknowledged, have and do mutually covenant and agree as follows:

First: The Seller agrees to sell and deliver and the Buyer agrees to purchase, take and pay for:

(a) Such natural gas as may be requisite to supply Buyer's requirements of natural gas to supply its present and future contracts and commitments to domestic consumers and its present and future contracts and commitments to companies distributing natural gas to domestic consumers, in cities, towns and communities in northern Colorado and southern Wyoming, now or hereafter connected to and served with natural gas from the pipe lines of the Buyer.

(b) Such amounts of natural gas as may be requisite to fulfill contracts and commitments made with the consent and approval of Seller by the Buyer for the sale of natural gas to consumers other than domestic consumers; and

(c) Such amounts of natural gas as the Buyer may desire for use in its compressing station or power plants, which amounts, if desired upon terms and conditions other than those applying to natural gas for domestic use hereunder, are deliverable only with the consent and approval of the Seller;

Provided, However, that the Seller shall not be obligated to sell and deliver natural gas in excess of the amount it has currently available for delivery, as hereinafter, in Articles Seventh and Eighth defined.

Second: The natural gas hereby agreed to be sold and purchased shall be delivered by Seller and received by Buyer at a metering and junction site and station to be located as follows: to-wit, three quarters of a mile north of the corporate limits of the Town of Littleton, Colorado, in the southeast quarter of the northwest quarter of Section Nine (9), Township Five (5) South, Range Sixty-eight (68) West, of the Sixth P. M., Arapahoe County, Colorado, hereinafter called "Arapahoe Station", at which station said natural gas shall be delivered from the pipe line of Seller to the pipe line of Buyer. The Seller shall there furnish, install, operate and maintain at its own expense, a regulating and measuring station properly equipped with orifice meters and recording gauges or other type of meter or meters of standard style, as may be mutually agreed upon, the measurements of which shall fix the total amount of natural gas delivered by the Seller to the Buyer.

The measuring equipment so installed by the Seller, together with any buildings erected by it for such equipment, shall be and remain its property. The Buyer shall have access to said metering equipment at all reasonable times but the reading, calibrating and adjusting thereof and changing of charts shall be done only by the employees or agents of the Seller. Charts and records from such metering equipment shall remain the property of the Seller. Up-

on request of the Buyer, the Seller will submit to the Buyer records and charts from its metering equipment, together with calculations therefrom, for the Buyer's inspection and verification, subject to return by the Buyer, within ten (10) days after receipt thereof, after which return the charts and records shall be kept on file by the Seller for the mutual use of both parties. At least twice each month, and on dates as near the first and sixteenth of the month as practicable, the Seller shall calibrate its meter in the presence of representatives of the Buyer and the parties shall jointly observe any adjustments which are made in the meter should such adjustments be necessary, and, if the check meters hereinafter provided for have been installed, the same shall also be calibrated by the Buyer in the presence of representatives of the Seller and any adjustments jointly observed should such adjustments be necessary. If either party at any time desires a test of any meter or if either party at any time observes a variation between the delivery meter and its check meter, if any such check meter is installed, it will promptly notify the other party and the parties will then co-operate to secure an immediate calibration test and joint observation of any adjustments and the meter shall then be adjusted to accuracy and corrections jointly made for the monthly settlements. Each company shall give to the other company notice of the time of all tests of meters sufficiently in advance of the holding of the tests so that the other company may conveniently have its representatives present. If, upon any test, any metering equipment is found to be inaccurate by one per cent (1%) or more, registrations thereof shall be corrected at the rate of such inaccuracy for any period which is definitely known and agreed upon, but in case the period is not definitely known and agreed upon, then for a period extending back one-half ($1/2$) of the time elapsed since the last date of calibration not exceeding, however, eight (8) days. Following any test, metering equipment found inaccurate shall immediately be restored as closely as possible to a condition of accuracy. If for any reason meters are out of service and/or out of repair so that the amount of natural gas delivered cannot be ascertained or computed from the reading thereof, the natural gas delivered through the period such meters are out of service and/or out of re-

pair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available, using the first of the following methods which is feasible:

(a) By correcting the error if the percentage of error is ascertainable by calibration, test or mathematical calculation.

(b) By using the registration of any check meter or meters if installed and accurately registering.

(c) By estimating the quantity of delivery by deliveries during preceding periods under similar conditions when the meter was registering accurately.

The unit of measurement for the natural gas deliverable under this agreement shall be one thousand (1,000) cubic feet of natural gas at an assumed temperature of sixty (60) degrees Fahrenheit and at a base pressure of eight (8) ounces gauge pressure above twelve and four-tenths (12.4) pounds absolute atmospheric pressure and the readings and registrations of the metering equipment herein provided for shall be computed into such units. For the purpose of measurement, the natural gas deliverable hereunder shall be assumed to obey Boyle's Law and the average absolute atmospheric (barometric) pressure shall be assumed to be twelve and four tenths (12.4) pounds to the square inch, irrespective of the actual elevation or location of the delivery point above sea level or of variations in such barometric pressure from time to time. If meters other than the orifice type are used; then in computing the readings and registrations of such metering equipment into the units above specified, the physical characteristics of the natural gas which affect such computations shall be given each their due consideration and the determination of such physical characteristics shall be made by standard apparatus and methods and at such time and places as, in accordance with good practice, may be agreed upon from time to time between the delivery company and the receiving company. For meters of the orifice type, the following factors shall be given due consideration, viz:

(a) The temperature of the natural gas flowing through the meter shall be assumed to be sixty (60)

degrees Fahrenheit and no adjustments shall be made for actual temperatures or variations therein.

(b). The specific gravity of the natural gas shall be determined twice monthly by joint tests on days as near the first (1st) and sixteenth (16th) of the month as practicable or as much oftener as is found necessary in practice. The method of test used shall be by Edward's Balance or by such other method as shall be agreed upon by the parties. The regular test at the first (1st) of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries during the first fifteen (15) days of such calendar month or until changed by special test, the special test to be applicable from the day made and through the following days to and including the fifteenth (15) day of such calendar month. The regular test made on the sixteenth (16th) of the month shall determine the specific gravity to be used in computations for the measurement of natural gas deliveries in that part of such calendar month commencing with the sixteenth (16th) day and continuing until the end thereof or until changed by special test, the special test to be applicable from the day made through the remaining days in such calendar month.

The Buyer may at its option and at its cost and expense install and operate check metering equipment, but the metering equipment of the Seller shall be used for determining the amounts of natural gas delivered under this agreement. The check metering equipment so installed by the Buyer, together with any buildings erected by it for such equipment, shall be and remain its property. Whenever the point of delivery as specified herein is on the premises of the Seller, the Seller grants to the Buyer the right of free ingress and egress to such metering equipment at all times for the purposes of installation, operation, repair and/or removal. The check metering equipment and the method of installation of the same shall be of such standard type for the measurement of natural gas as is approved by both companies, but the Buyer shall have the right to replace such equipment at any time with metering equipment of equal grade subject to the approval of the Seller as to type and method of installation. In the event check metering

equipment is installed by the Buyer, the Seller shall have access to the same at all reasonable times, but the reading, calibrating and adjusting thereof and the changing of charts shall be done only by employees or agents of the Buyer. Charts and records from said check metering equipment shall remain the property of the Buyer. Upon request of the Seller, the Buyer will submit to the Seller records and charts from said metering equipment, together with calculations therefrom for the Seller's inspection and verification, subject to return by the Seller within ten (10) days after receipt thereof.

The Seller shall render to the Buyer, on or before the fifteenth (15th) day of each month, a statement of the amount of natural gas delivered to the Buyer during the calendar month immediately preceding and of the amount of payment or payments then due from the Buyer to the Seller therefor at the special prices for natural gas used or sold for industrial purposes and at the City gate price for the remainder of the natural gas. The statements of deliveries so furnished by the Seller to the Buyer shall be conclusive upon the parties excepting as to the corrections and/or adjustments then pending, unless exceptions thereto in writing shall be made by the Buyer within ten (10) days after it shall receive such statement.

Third: The prices to be paid by the Buyer to the Seller for natural gas, so to be delivered hereunder, shall be as follows:

(a) During the period of this contract, the Arapahoe Station price which the Buyer shall pay the Seller for natural gas purchased and taken by the Buyer hereunder shall be:

17c per thousand cubic feet for the first five (5) years of the life of this contract

20c per thousand cubic feet for the second five (5) years of the life of this contract

22-1/2c per thousand cubic feet for the third five (5) years of the life of this contract; and

25c per thousand cubic feet for the fourth five (5) years of the life of this contract.

except as next provided in sub-paragraphs (b) and (c) of this Article Third.

(b) For natural gas purchased by the Buyer from the Seller hereunder and delivered by the Buyer, directly, or indirectly, through its companies distributing natural gas purchased from Buyer, under commercial or industrial contracts, which contracts shall have been submitted to and approved by the Seller, the price payable to the Seller shall be fifty percent (50%) of the average price per thousand cubic feet chargeable by the Buyer to such commercial or industrial consumers under such approved contracts, including service, demand, minimum, commodity and other charges;

(c) For natural gas purchased by the Buyer from the Seller for use in any of its compressing stations or power plant or plants, the price payable to the Seller shall be fifty percent (50%) of the same price or scale of prices at which the Buyer is selling, under contracts approved by the Seller, natural gas to an industrial consumer using similar quantities, unless the parties hereto agree from time to time that some other price shall apply.

Fourth: In order to keep account of the natural gas sold to the Buyer at the Arapahoe Station rate, and natural gas sold or used for commercial and industrial purposes and to be paid for at the agreed industrial rate, the Buyer shall, on or before the fifth (5th) day of each calendar month, render a statement to the Seller showing the quantity of natural gas consumed by commercial and industrial consumers and each of them, at the industrial tariff, in the preceding calendar month. The quantities consumed by commercial and industrial consumers each month shall be paid for by the Buyer to the Seller at the industrial-commercial rates hereinabove in sub-paragraph (b) of Article Third provided for and on the same basis of measurement as set forth in Article Second. To ascertain the volume of gas delivered for domestic purposes in each calendar month the quantities of gas delivered for commercial and industrial purposes thus determined shall be deducted by the Seller from the total amount of natural gas registered in such calendar month by the Seller's Arapahoe Sta-

tion meter or meters and the remainder shall be considered the amount of natural gas to be paid for to the Seller at the Arapahoe Station price hereinabove in sub-paragraph (a) of Article Third set forth. In these measurements, it is agreed that no allowance shall be made for leakage or for failure of the Buyer to collect from any of its customers, or for the Buyer's allowance to customers because of defective consumers' meters or meter readings, it being the intention of the parties hereto that all natural gas delivered by the Seller to the Buyer and measured at Arapahoe Station shall be paid for by the Buyer to the Seller as above stipulated. The Buyer shall read or cause to be read all meters through which is measured natural gas used or sold for commercial and industrial purposes, as near the end of each calendar month as is practicable, and the Seller's Arapahoe Station meter or meters shall also be read by the Seller at the end of each calendar month.

Fifth. The Buyer agrees to pay the Seller at its office in Colorado Springs, Colorado, on or before the twentieth (20th) of the month, for said natural gas deliveries of the preceding month according to the natural gas measurements and computations and at the prices hereinbefore provided for and billed on said monthly statement. Should the Buyer fail to pay any amount due from it to the Seller when such amount is due, interest thereon shall accrue at six percent (6%) per annum from the date when such amount was due to the date of payment. If such failure to pay continues for sixty (60) days, then the Seller may suspend deliveries of natural gas, but the exercise of such right shall be in addition to any and all other remedies otherwise available to the Seller.

Sixth. The Buyer agrees to keep proper books, records and accounts, according to approved methods, so as to reflect accurately and in detail the number of commercial and industrial consumers and the quantity of gas sold to each such consumer and the Seller shall have the right at all reasonable times to go upon the property of the Buyer and to make such inspection and investigation of same as may be pertinent to a check up of the Buyer's classification of consumers, and this shall include the right to inspect the Buyer's books, accounts, meters and records for such in-

formation as may aid in an audit or settlement of accounts between the parties.

The Buyer shall install and maintain or cause to be installed and maintained at all times during the continuance of this contract accurately registering meters to measure the Buyer's deliveries of gas at other than domestic rates, and shall make or cause to be made inspection thereof regularly as is good practice in the operation of gas distribution and promptly make or cause to be made such repairs to or changes in meters as may be proper to maintain accurate measurements.

Seventh. The Buyer acknowledges that the production of natural gas from wells and the transportation thereof over long distances are subject to accident, interruptions, diminution of pressure and failure of supply. The Seller, however, expressly agrees that it will exercise reasonable diligence and care to avoid any shortage or interruption of supply of natural gas hereunder, but it shall not be liable for any damage or loss that may be occasioned by any shortage or failure, or shortage of production of gas wells or fields, breakage or accident to lines or equipment, fires, strikes, riots, floods and other acts of whatever nature, due to causes beyond its control and interruptions by governmental or court orders. The Seller shall only be bound to furnish natural gas to the full extent that it may be able to do so through the exercise of reasonable care and diligence in the procuring of natural gas from its gas purchase contracts, and in the transportation thereof through its lines to the point of delivery and at such pressure and for such period of time as natural gas is available.

It is expressly agreed by the Buyer that the Seller may interrupt its service hereunder for the purpose of making necessary alterations and repairs to its pipe lines and compressing station equipment and machinery, but only for such time as may be reasonable or unavoidable, and the Seller shall give to the Buyer, except in case of an emergency, reasonable notice of its intention so to do, and shall endeavor to arrange such interruption so as to inconvenience the Buyer and its consumers, as little as possible.

Nothing herein contained shall in any way abridge the

right of the Seller at any time to sell, transport and deliver natural gas under present contracts or contracts which may hereafter be negotiated, to others than the Buyer, or restrict or reserve the Seller's properties, or any part of them for the exclusive benefit of this contract and it is expressly understood that this contract is subject to the obligations to sell and deliver natural gas imposed upon the Seller by those two certain contracts heretofore entered into by it with Public Service Company of Colorado and The Pueblo Gas and Fuel Company both of date of 3rd day of January, 1928. It is agreed that in case of shortage, either temporarily or permanently, of natural gas and necessity for curtailment of service to any classes of consumers, the demands of domestic consumers of the Seller, the Buyer and/or of other distributing customers to which the Seller or Buyer may sell natural gas, are to be preferred over service to industrial consumers and of the amount remaining, deliveries, if any, for industrial consumers served by the Buyer shall be such part as the requirements of such industrial consumers bear to the requirements of industrial consumers of the Seller, the Buyer and of other distributing customers to which the Seller may sell natural gas; provided, however, that such domestic consumers' preference and such right to receive natural gas for industrial users shall not be exercised so as to deprive the Colorado Fuel & Iron Company of the volume of natural gas needed to complete open hearth heats then in jeopardy and to keep its furnaces warm during extreme domestic demand upon the Seller's pipe line, or so as to deprive any other industrial or commercial consumer which requires a small proportion of its normal demand to prevent damage to its appliances.

Eighth. It is understood that the Seller obtains its natural gas for delivery hereunder, by purchase from the Canadian River Gas Company, under contract with that Company of date the 3rd day of January, 1928, which owns or holds under lease or contract large reserves of natural gas in the counties of Hartley, Oldham, Moore, Potter, Carson and Hutchinson, Texas, in what is known as the Amarillo gas field, and that the Seller shall not be required to supply hereunder natural gas from any other source, but the Seller shall have the right, if it so elects, to supply hereunder natural gas from other sources provided such other

natural gas is not substantially inferior in quality to the natural gas then being purchased from the said Amarillo gas field. The Seller shall not renounce the right it has under and by virtue of its contract with the Canadian River Gas Company to receive natural gas from any of the gas leaseholds, gas rights, or gas estates described and referred to in the contract between the Canadian River Gas Company and the Amarillo Oil Company, of date of 3rd day of January, 1928, *unless* the Seller shall first deliver to the Buyer a statement in writing under the corporate seal of the Seller that the gas leaseholds, gas rights, gas contracts or gas estates, the subject of such renunciation, by reason of Seller's own operations or explorations or the operations or explorations of others, are believed by the Seller to be without substantial value, or until the consent of the Buyer to such renunciation shall be obtained, provided, however, it is understood and agreed that Seller has renounced, surrendered and waived any right it has under and by virtue of its said contract with the Canadian River Gas Company to receive gas produced from lands described in the certain option agreement dated the 17th day of May, 1927, between the United States of America and the Amarillo Oil Company, and a certain other option agreement dated the 23rd day of March, 1928, between the United States of America and the Amarillo Oil Company, for the reason that the United States of America has exercised its rights to purchase the gas leaseholds, gas rights or gas estates described in said agreements.

Ninth. The natural gas deliverable hereunder shall be natural gas as produced in its natural state from the wells, except that the Seller may extract or permit the extraction of any helium content and the natural gas gasoline from said natural gas, but shall not subject its natural gas nor permit its natural gas to be subjected to any treatment in the extraction of natural gas gasoline or otherwise, which shall change the chemical composition of any of its component parts, or which will dilute it. The Seller is to tender delivery to the Buyer only of natural gas which is commercial in quality and condition.

Tenth. This contract shall continue for twenty (20) years from the date the Buyer first receives deliveries of

natural gas hereunder (and the Buyer agrees to prepare and equip itself to receive such deliveries as soon as reasonably may be) subject to termination at an earlier date either:

(a) at the option of the Seller if and upon the expiration or termination within said twenty (20) year period of Buyer's gas purchase contract with the Canadian River Gas Company of date the 3rd day of January, 1928, referred to above in paragraph Eighth;

or

(b) if and upon the Seller ceasing within said twenty (20) year period to operate its pipe line extending from near Pueblo, Colorado, to Denver, Colorado.

Eleventh. In the event of either party being rendered unable wholly or in part by Force Majeure to carry out its obligations under this contract other than to make payments of amounts due hereunder, it is agreed that on such party giving notice and full particulars of such Force Majeure in writing or by telegraph to the other party as soon as possible after the occurrence of the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such Force Majeure, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall, so far as possible, be remedied with all reasonable dispatch.

The term "Force Majeure" as employed herein shall mean acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests, and restraint of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, freezing of wells or lines of pipe, sudden partial or entire failure of natural gas wells, and any other cause, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome.

Twelfth. All notices to be given hereunder by the Seller

to the Buyer, shall be given by registered mail or by delivering the same to the Buyer at its office at Denver, Colorado, or at such other office as may be hereafter designated by the Buyer for the purpose, and all notices to be given by the Buyer to the Seller shall be given by registered mail or by delivering the same to the Seller at its office at Colorado Springs, Colorado, or at such other office as may be hereafter designated by the Seller for the purpose.

Thirteenth. This agreement shall inure to the benefit and be binding upon the successors and assigns of the parties hereto. Whenever any corporation is referred to herein, such reference shall be deemed to include the successors and assigns of any such corporation.

Fourteenth. As between the parties hereto, the Seller shall be in control and possession of the natural gas deliverable hereunder and responsible for any damage or injury caused thereby until the same shall have been delivered to the Buyer at Arapahoe Station, after which delivery the Buyer shall be deemed to be in exclusive control and possession thereof and responsible for any such injury or damage.

Fifteenth. It is covenanted and agreed that if either party shall wrongfully breach any of the covenants or obligations imposed upon it by this contract to an extent affecting substantially its performance or materially prejudicing the other party, then in such event the other party may, at its option, terminate this contract by proceeding as follows: The party not in default may cause a written notice to be served on the party in default, stating specifically the cause for terminating this contract and declaring it to be the intention of the party giving the notice to terminate the same; thereupon the party in default shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating the contract, and if within said period of thirty (30) days the party in default does so remove and remedy said cause or causes and fully indemnifies the party not in default for any and all consequences of such breach, then such notice shall be withdrawn and this agreement shall continue in full force and effect. In

case the party in default does not so remedy and remove the cause or causes and/or does not indemnify the party giving notice for any and all consequences of such breach, within said period of thirty (30) days, then this agreement shall become null and void from and after the expiration of said period. Any cancellation of this agreement pursuant to the provisions of this Article shall be without prejudice to the party not in default to collect any amounts then due to it and without waiver of any other remedy to which the party not in default may be entitled for violation of this contract.

Sixteenth. The Buyer agrees, in the event of temporary shortage of natural gas available in the pipe line of Seller due to causes beyond the control of the Seller and upon request of the Seller, to deliver to Seller at the connection between the pipe line of the Buyer and the pipe line of the Seller at Arapahoe measuring station such natural gas as may be required by the Seller to supply the requirements of The Public Service Company of Colorado for its domestic consumers in Denver, but only to the extent that the Buyer has natural gas then available and undisposed of by it in excess of deliveries then required of the Buyer under contracts and commitments with its customers, including distributing customers, for domestic purposes. Such deliveries shall continue only during the period of emergency. Measurement of said natural gas so delivered to the Seller shall be made at the Arapahoe measuring station under the terms and conditions of measurement set forth in Article Second hereof, and the Seller shall pay the Buyer for such gas the price per thousand cubic feet currently payable to the Seller by the Public Service Company of Colorado for domestic purposes.

Seventeenth. The Seller agrees to maintain at its Arapahoe Station a pressure of natural gas in its pipe line of not less than fifty (50) pounds gauge to the square inch whenever and as long as it has available, sufficient natural gas to meet the current requirements of the Buyer and to install and operate the requisite compression facilities and to operate its pipe line and use the storage capacity thereof in accordance with good pipe line practice in order to main-

tain such pressure and to meet the varying demands of the Buyer's market hereunder.

It is mutually understood and agreed that the Buyer shall keep the Seller at all times fully informed of all facts tending to show the amount of natural gas which will be necessary from time to time to supply its requirements hereunder.

In Witness Whereof, the parties hereto have caused this agreement to be duly signed by their respective officers the day and year first above written.

COLORADO INTERSTATE GAS COMPANY,
By CHRISTY PAYNE, President.

Attest: E. E. DuVALL, Secretary.
(Corporate Seal)

COLORADO-WYOMING GAS COMPANY,
By C. J. SHORTESS,
Vice-Pres. & Gen. Mgr.

Attest: H. P. DAVIS, Secretary.
(Corporate Seal)

Colorado Interstate Gas Company Supplement No. 1.
Effective date September 28, 1929. Filing date August 19, 1938, to Rate Schedule FPC No. 3.

Supplemental Agreement.

This Agreement, made and entered into this 8th day of October, 1929, by and between Colorado Interstate Gas Company, a Delaware corporation, party of the first part, and Colorado Wyoming Gas Company, a Delaware corporation, party of the second part.

Whereas, the parties hereto heretofore and under date the 3rd day of October, 1929, entered into contract for the sale and delivery by first party, as Seller, and the purchase and receipt by second party, as Buyer, of natural gas under the terms and conditions and at the prices therein provided, and

Whereas, the parties hereto have agreed, upon the happening of certain conditions and contingencies hereinafter

specified, to increase the agreed price to be paid by the Buyer to the Seller for natural gas during the third and/or fourth five year periods of the life of said contract as set forth in sub-paragraph (a) of Article Third thereof.

Now, Therefore, the parties hereto in consideration of the covenants and payments hereunder set forth and of the sum of One Dollar (\$1.00) in hand paid by each to the other, receipt of which is hereby acknowledged, have and do mutually covenant and agree as follows:

If and when the conditions and contingencies hereinafter specified occur, then beginning with the eleventh and/or the sixteenth year of the life of said contract, as the case may be, and continuing as hereinafter provided, Article Third of said contract shall read as follows:

Third. The prices to be paid by the Buyer to the Seller for natural gas, so to be delivered hereunder, shall be as follows:

(a) During the period of this contract, the Arapahoe Station price which the Buyer shall pay the Seller for natural gas purchased and taken by the Buyer hereunder shall be:

17¢ per thousand cubic feet for the first five (5) years of the life of this contract

20¢ per thousand cubic feet for the second five (5) years of the life of this contract

22-1/2¢ per thousand cubic feet for the third five (5) years of the life of this contract; and

25¢ per thousand cubic feet for the fourth five (5) years of the life of this contract,

except as next provided in sub-paragraph (b) of this Article Third.

(b) For natural gas purchased by the Buyer from the Seller hereunder and delivered by the Buyer, directly or indirectly through its distributing customers, under commercial or industrial contracts, the price payable to the Seller shall be fifty per cent (50%) of the average price per thousand cubic feet charged the ultimate consumer for such gas so used for commercial or

industrial purposes, including service, demand, minimum, commodity and other charges, provided however that every commercial or industrial contract under which the Seller would receive or is offered less than twelve and one half cents (12-1/2¢) per thousand cubic feet shall be submitted to and approved by the Seller before the provisions of this sub-paragraph (b) shall apply to such contract.

Provided, however, that said price after the end of the tenth (10th) year shall be increased under the following conditions:

(c) If the average annual net earnings derived by the Buyer from the sale and distribution by the Buyer of natural gas purchased by it from the Seller under this contract during the eighth, ninth and tenth years of the life hereof, computed for this purpose on the basis of using a price of 22-1/2¢ per thousand cubic feet instead of the agreed rate of 20¢ applicable to such years for gas purchased from the Seller, are in excess of 12%, before deduction of interest, depreciation and federal taxes; upon the average annual physical investment of Buyer during said years as hereinafter in sub-paragraph (d) of this Article Third defined, the price to be paid to the Seller under sub-paragraph (a) of this Article Third for each one thousand (1,000) cubic feet of gas delivered during the eleventh to the fifteenth years, inclusive, shall be 22-1/2¢ and an amount determined by dividing 60% of the amount by which such earnings, so ascertained, may be in excess of said 12% return by the average amount of gas sold in said eighth, ninth and tenth years for domestic purposes. Likewise, if the average annual net earnings derived by the Buyer from the sale and distribution by the Buyer of natural gas purchased by it from the Seller under this contract during the thirteenth, fourteenth and fifteenth years, computed for this purpose on the basis of using a price of 25¢ per thousand cubic feet instead of the agreed rate of 22-1/2¢ applicable to such years for gas purchased from the Seller, are in excess of 12% before the deduction of interest, depreciation and federal taxes upon the average annual physical in-

vestment of Buyer during said years as hereinafter in sub-paragraph (d) of this Article Third defined the price to be paid to the Seller under sub-paragraph (a) of this Article Third for each one thousand (1,000) cubic feet of gas delivered during the sixteenth to the twentieth years, inclusive, shall be the price per thousand cubic feet payable during the eleventh to the fifteenth years, inclusive, and an amount determined by dividing 60% of the amount by which such average annual net earnings were in excess of such 12% return by the average amount of gas sold in said thirteenth, fourteenth and fifteenth years for domestic purposes.

(d) The physical investment of Buyer to be averaged for said years and upon which average the percentage of average net earnings are to be computed under the provisions of sub-paragraph (c) of this Article Third shall be and constitute the sum of the following items of plant investment, without deduction for depreciation, to-wit:

(1) The entire investment cost of the Buyer in that portion of its pipe line system including compressor station or stations and other facilities used in connection therewith about to be constructed by the Buyer, and extending from the Arapahoe measuring station, hereinbefore located and described, to the regulator and measuring station of Buyer in the City of Ft. Collins, Colorado.

(2) The entire investment cost of the Buyer in any and all branch, extension, or additional pipe lines and facilities which may be constructed or acquired by the Buyer and which receive deliveries of natural gas from and through said Arapahoe measuring station or other facilities of the Seller.

(3) The investment cost of the Buyer in that portion of the present pipe line system and facilities of the Buyer extending in and from the City of Ft. Collins, Colorado, to and into the City of Cheyenne, Wyoming, utilized in connection with the sale and distribution by the Buyer of natural gas purchased from the Seller under this contract. For the purposes hereof

such investment shall be that proportion of the entire investment which the volume of natural gas purchased by the Buyer from the Seller hereunder and distributed through such facilities bears to the total volume of natural gas transported through said facilities. It is agreed that the present entire investment cost of the Buyer in such pipe line and facilities is the sum of Six Hundred Thousand (\$600,000)* Dollars to which shall be added any and all additional capital investment in said pipe line system and facilities constructed or acquired by the Buyer north of the City of Ft. Collins, Colorado.

In Witness Whereof, the parties hereto have caused this agreement to be duly signed by their respective officers the day and year first above written.

COLORADO INTERSTATE GAS COMPANY,
By CHRISTY PAYNE, President.

Attest

E. E. DuVALL, Secretary.
(Corporate Seal)

COLORADO WYOMING GAS COMPANY,
By C. J. SHORTESS,
Vice-Pres. & Gen. Mgr.

Attest

H. P. DAVIS, Secretary.
(Corporate Seal)

Colorado Interstate Gas Company Exhibit A to Rate Schedule FPC No. 3.

February 5, 1930.

Mr. J. D. Creveling, Henry L. Doherty & Co., 60 Wall Street,
New York, N. Y.

Dear Mr. Creveling: I am sorry to report that an error crept into the agreement between Colorado Interstate Gas Company and Colorado Wyoming Gas Company, executed October 3, 1929, in that in paragraph Tenth, sub-division (a), second line, the word "Buyer's" is used instead of the word "Seller's" in referring to a gas purchase contract between Seller and the Canadian River Gas Company dated January 3, 1928.

I should be glad if you would call this to the attention of the Colorado Wyoming Gas Company and have an acknowledgment of the mistake. It is only an error of reference and this explanation and acknowledgment might be sufficient.

Yours very truly,

CHRISTY - PAYNE.

Colorado Interstate Gas Company Exhibit A to Rate Schedule FPC No. 3.

Clarence J. Shortess, Vice Pres. & Genl. Mgr.
Harvey P. Davis, Secretary
Colorado-Wyoming Gas Company
407 Continental Oil Building
Denver, Colorado

May 5, 1930.

Mr. Christy Payne, Vice-Pres., Colorado Interstate Gas Co., 26 Broadway, New York City, N. Y.

Dear Mr. Payne: Beg to advise that we have corrected contract between Colorado Interstate Gas Company and Colorado-Wyoming Gas Company, paragraph "10" subparagraph "A" page 9 to read "sellers" instead of "buyers". This is in compliance with your request.

Yours very truly,

COLORADO WYOMING GAS COMPANY,
By C. J. SHORTESS,
Vice-Pres. & Gen. Mgr.

CJS:W

Colorado Interstate Gas Company Exhibit A to Rate Schedule FPC No. 3.

May 8, 1930.

Mr. C. J. Shortess, Vice-Pres. & Gen. Mgr., Colorado-Wyoming Gas Company, 407 Continental Oil Building, Denver, Colorado.

Dear Mr. Shortess: We regret to bother you again in the matter of the error in the October 3, 1929 contract be-

tween Colorado Interstate Gas Company and Colorado-Wyoming Gas Company.

Your letter of May 5th advising that you have corrected your copy of the contract, quotes the correct paragraph and sub-paragraph, but refers to page 9 of the agreement, whereas the error in question appears on page 16* in the contract, last word of the second line, sub-division (a), Paragraph Tenth.

We call this matter to your attention again to avoid any confusion, since there is a sub-division (a) on page 9 of the agreement, which is not involved in this correction.

Yours very truly,

CHRISTY PAYNE.

EED:JM

(*Page 17 in appended copy of contract of October 3, 1929)

Colorado Interstate Gas Company Exhibit A to Rate Schedule FPC No. 3.

Clarence J. Shortess, Vice Pres. & Genl. Mgr.

Harvey P. Davis, Secretary

Colorado-Wyoming Gas Company

407 Continental Oil Building

Denver, Colorado

May 12, 1930.

Mr. Christy Payne, Vice-Pres., Colorado Interstate Gas Co., 26 Broadway, New York City, N. Y.

Dear Mr. Payne: We are in receipt of your letter calling our attention to an error. We wish to state that the correction in contract mentioned was made on Page 16*, paragraph 10, sub-paragraph "A". In using page 9, instead of page 16, in our letter of May 5th to you—this was a typographical error on our part, so the correction has been made proper.

Yours very truly,

C. J. SHORTESS, Vice-Pres. & Gen. Mgr.

CJS:W

(*Page 17 in appended copy of contract of October 3, 1929)

Colorado Interstate Gas Company Supplement No. 2.
Effective date April 1, 1938. Filing date February 1, 1939
to Rate Schedule FPC. No. 3.

Colorado-Wyoming Gas Company
407 Continental Oil Building
Denver, Colorado

March 28, 1938.

Mr. R. W. Hendee, Manager, Colorado Interstate Gas Company, Colorado Springs, Colorado.

Dear Mr. Hendee: We have executed industrial contract with Colorado Portland Cement Company for service to their LaPorte plant and in accordance with your request of the 15th inst., we are enclosing two copies of the new contract as signed.

We presume you desire one of these for your files, the other for approval and return to us.

Very truly yours,

H. P. DAVIS, Secretary.

HPD:ED

Colorado Interstate Gas Company Supplement No. 2.
Effective date April 1, 1938. Filing date February 1, 1939
to Rate Schedule FPC No. 3.

Colorado Interstate Gas Company
Colorado Springs, Colo.

March 29, 1938.

Colorado-Wyoming Gas Company, 407 Continental Oil Building, Denver, Colorado. Attention of Mr. H. P. Davis.

Gentlemen: This will acknowledge receipt of your letter of March 28th enclosing for our approval and files a copy of your renewal contract, dated March 28, 1938, with The Colorado Portland Cement Company, for a period of nine months from April 1, 1938.

The terms and conditions of this renewal are satisfactory to Colorado Interstate Gas Company. It is under-

stood, of course, that you will be billed at the rate of 9-1/2c per M.c.f. for all gas sold by you under this contract.

We have retained both copies of this instrument for our files. However, if you need the extra copy, please let us know.

Very truly yours,

ROBERT. W. HENDEE.

cc-W. R. Bearsley. RWH:t

Colorado Interstate Gas Company Supplement No. 3.
Effective date July 1, 1938. Filing date August 19, 1938
to Rate Schedule FPC No. 3.

Colorado Interstate Gas Company
30 Rockefeller Plaza
New York

June 30, 1938.

Colorado-Wyoming Gas Company, Denver, Colorado.

Dear Sirs: The agreement between Colorado-Wyoming Gas Company and the undersigned respecting the reimbursement of Colorado-Wyoming Gas Company for certain expenditures in connection with the construction of facilities for the serving of gas to the communities known as Edgewater and Mount Air, in the vicinity of Denver, Colorado, having been fulfilled and complied with by us, it is hereby agreed that effective July 1, 1938 the price for natural gas sold by us to you, which in turn you resell to Public Service Company of Colorado for distribution in Edgewater and Mount Air, shall be thirty-five cents (35c) per M. c. f. All other terms and conditions of the existing agreement between us shall apply with respect to the delivery of such gas.

Your acceptance of this noted on the space provided below will constitute this as an agreement between us for so

long as Public Service Company of Colorado purchases gas from you for distribution in said communities.

Very truly yours,

COLORADO INTERSTATE GAS COMPANY,
By F. H. LEROY, JR.,
Vice-President.

The foregoing accepted: Aug. 4, 1938.

COLORADO-WYOMING GAS COMPANY,

By C. J. SHORTESS, Vice-Pres. & Gen. Mgr.

Colorado Interstate Gas Company Exhibit A to Supplement No. 2 to Rate Schedule FPC No. 3.

Colorado-Wyoming Gas Company
Denver, Colorado

Rate applicable to sale of gas to Colorado Portland Cement Company for industrial purposes is \$.12 per thousand cubic feet.

The foregoing rate has been approved by Colorado Interstate Gas Company which receives \$.095 per thousand cubic feet.

Colorado Interstate Gas Company Supplement No. 1.
Filing date: August 26, 1939 to Supplement No. 1 to Rate Schedule FPC No. 3.

Colorado Interstate Gas Company
30 Rockefeller Plaza
New York

August 25, 1939

Federal Power Commission, Washington, D. C.

Gentlemen: Reference is made to Rate Schedules FPC No. 3, and Supplement No. 1 thereto, filed August 19, 1938, by Colorado Interstate Gas Company, effective date September 28, 1929, consisting of agreements dated respectively October 3, 1929, and October 8, 1929, covering the sale of natural gas by Colorado Interstate Gas Company to Colorado-Wyoming Gas Company.

Article Third (a) of said agreement of October 3, 1929, as modified by the Supplemental Agreement of October 8, 1929, provides that the price to be paid by the Buyer to the Seller for natural gas for resale other than under industrial or commercial contracts shall be $22\frac{1}{2}$ c per thousand cubic feet for the third five years of the life of the contract, that is, for the five-year period commencing September 28, 1939, provided, however, that the price of such gas shall be increased above $22\frac{1}{2}$ c per thousand cubic feet if certain conditions respecting earnings of Buyer during the preceding three years of the contract have been fulfilled.

In compliance with Order No. 57 of your Commission, we hereby submit the information and data specified in Part 54, Sec. 54.3 C of the Provisional Rules of Practice and Regulations under the Natural Gas Act, with respect to said changes in rate:

(1) Reasons for the proposed change and the desirability thereof:

The periodic changes in rates provided in said agreements of October 3, 1929, and October 8, 1929, cannot be regarded as new rate negotiations as of the date of change.

The purpose in charging rates in the earlier periods of the contracts lower than those provided to be charged ultimately by successive periodic increases was to assist the Buyer in meeting charges incident to the installation of its pipe line transmission system and subsequently to aid in building up Buyer's load. This plan was agreed to instead of the fixing of a flat price to apply to all gas sold throughout the entire period of the contract.

(2) Pertinent data supporting the statements at (1) above:

In this connection, reference is made to said agreements of October 3, 1929, and October 8, 1929.

(3) An estimate of the probable sales and revenues under the rates after the proposed changes become effective, for a period of 12 months thereafter:

Estimate of probable sale @ $22\frac{1}{2}c$ 1,225,000 Mcf.

Estimate of probable revenue \$275,000.00.

The information required to determine whether or not the price of gas during the third five-year period commencing September 28, 1939, will be greater than $22\frac{1}{2}c$ per thousand cubic feet will not be available until after September 28, 1939. If it develops that under the terms of the agreement the price of gas is to be greater than $22\frac{1}{2}c$ per thousand cubic feet, further report will be made as a supplement to this present report.

Very truly yours,

COLORADO INTERSTATE GAS COMPANY,
By F. H. LERCH, JR., President.

Via Registered Mail.

Federal Power Commission.
Supplements Nos. 4-A, 4-B, 4-C
to
Rate Schedule F.P.C. No. 3.

Filed By

Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold To
Colorado-Wyoming Gas Company,
Denver, Colorado.

This schedule consists of Letters dated respectively December 28, 1938, December 31, 1938 and January 6, 1939, approving rate applicable to sale of natural gas for resale to Colorado Portland Cement Company for industrial use.

Colorado Interstate Gas Company Supplement No. 4-A. Effective date January 1, 1939. Filing date January 7, 1939 to Rate Schedule FPC No. 3. (Supersedes Supplement No. 2 to Rate Schedule FPC No. 3).

Colorado-Wyoming Gas Company
Denver, Colorado.

December 28, 1938.

Mr. R. W. Hendee, Colorado Interstate Gas Co., Colorado Springs, Colo.

Dear Mr. Hendee: Enclosed herewith are two copies of gas contract with Colorado Portland Cement Plant which were executed today. This contract is for a term of 12 months beginning January 1, 1939 and the rate and terms thereof are identical with the expiring contract.

We have a verbal understanding with Mr. Morse to the effect that if this contract is not approved by your company by reason of the failure of the Federal Power Commission to permit the contract to become effective, said contract will become void and of no effect.

Yours very truly,

H. P. DAVIS, Secretary.

Colorado Interstate Gas Company Supplement No. 4-B. Effective date January 1, 1939. Filing date January 7, 1939 to Rate Schedule FPC No. 3. (Supersedes Supplement No. 2 to Rate Schedule FPC No. 3).

Colorado-Wyoming Gas Company
Denver, Colorado.

December 31, 1938.

Mr. R. W. Hendee, Manager, Colorado Interstate Gas Co., Colorado Springs, Colo.

Dear Sir: With reference to contract dated December 28, 1938 between Colorado Wyoming Gas Company and Colorado Portland Cement Company for natural gas service at their Laporte plant for the year 1939, copy of which was submitted to you for approval, the price which we propose to pay for gas received from you to supply this customer is nine and one-half (9½c) cents per M.C.F., delivered to us at Arapahoe Measuring Station.

Your approval of this rate is requested.

Yours very truly,

HPD:EB

H. P. DAVIS, Secretary.

Colorado Interstate Gas Company Supplement No. 4-C.
Effective date January 1, 1939. Filing date January 7,
1939 to Rate Schedule FPC No. 3 (Supersedes Supplement
No. 2 to Rate Schedule FPC No. 3).

Colorado Interstate Gas Company
30 Rockefeller Plaza,
New York.

January 6, 1939.

Colorado-Wyoming Gas Company, Denver, Colorado.

Attention: Mr. H. P. Davis, Secretary.

Gentlemen: Referring to your letters of December 28 and 31, 1938, addressed to Mr. R. W. Hendee, this is to advise you that Colorado Interstate Gas Company hereby approves the agreement entered into by you with Colorado Portland Cement Company under date of December 28, 1938 for supplying natural gas for industrial use in the plant of Colorado Portland Cement Company near La Porte, Colorado, at the price of twelve cents (12c) per thousand cubic feet, for the term of twelve (12) months from January 1, 1939, with the understanding that Colorado-Wyoming Gas Company will pay Colorado Interstate Gas Company at the rate of nine and one-half cents (9½c) per thousand cubic feet for all gas delivered to you for this account and sold by you under said contract, and with the further understanding that Colorado Interstate Gas Company does not undertake to furnish a full and uninterrupted supply of gas, but may at any time and without notice discontinue in whole or in part the furnishing of gas for the purpose of said contract.

Before this approval can be effective it must be filed with the Federal Power Commission pursuant to the terms of the Natural Gas Act and the rules and regulations of the Commission promulgated thereunder. Such filing will be made by Colorado Interstate Gas Company and in the event the same does not become effective within at least thirty (30) days, the approval given above shall become null and void.

Yours very truly,

COLORADO INTERSTATE GAS COMPANY,
By: F. H. LERCH, JR.,
Vice-President.

Federal Power Commission.
Supplement No. 5

to
Rate Schedule FPC No. 3

Filed By
Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold To
Colorado-Wyoming Gas Company,
Denver, Colorado.

This schedule consists of Letter Agreement dated May 10, 1939, covering the sale to Colorado-Wyoming Gas Company of surplus natural gas for resale to Public Service Company of Colorado for industrial use in its Valmont electric power plant near Boulder, Colorado.

Colorado Interstate Gas Company Supplement No. 5.
Effective date May 13, 1939. Filing date May 20, 1939 to
Rate Schedule FPC No. 3.

Colorado Interstate Gas Company
30 Rockefeller Plaza
New York.

May 10, 1939.

Colorado-Wyoming Gas Company, Denver, Colorado.

Gentlemen: You have advised us that due to the emergency caused by the shortage of coal, you are able to sell surplus natural gas, if available, to Public Service Company of Colorado for industrial use in its Valmont electric power plant located near Boulder, Colorado.

Colorado Interstate Gas Company is willing to furnish gas to you for resale for such industrial use, for a period of thirty (30) days and continuing thereafter subject to cancellation upon thirty (30) days' notice by either party, at the price to Colorado Interstate Gas Company of nine and one-half cents (9½c) per one thousand (1,000) cubic feet.

All other terms and conditions of the existing agreement

between us shall apply with respect to the delivery of such gas.

This agreement is subject to being filed with the Federal Power Commission and becoming effective in accordance with the Natural Gas Act of 1938 and can not be considered an obligation by Colorado Interstate Gas Company until it does so become effective.

Yours very truly,

COLORADO INTERSTATE GAS COMPANY,
By WM. A. DOUGHERTY,
Vice President.

Accepted: May 17th, 1939.

COLORADO-WYOMING GAS COMPANY,
By C. J. SHORTESS, Vice President.

Federal Power Commission.
Supplement No. 6
to
Rate Schedule FPC No. 3

Filed By
Colorado Interstate Gas Company,
Colorado Springs, Colorado.

• Covering Natural Gas Sold To
Colorado-Wyoming Gas Company,
Denver, Colorado.

This schedule consists of letters dated March 29, 1940 and April 12, 1940, approving rate applicable to sale of natural gas for resale to The Colorado Portland Cement Company for industrial use.

Colorado Interstate Gas Company Supplement No. 6.
Effective Date: Filing Date: April 13, 1940 to
Rate Schedule FPC No. 3 (Supersedes Supplement No. 4
to Rate Schedule FPC No. 3).

Colorado-Wyoming Gas Company
Continental Oil Building
Denver, Colorado.

March 29, 1940.

Mr. R. W. Hendee, Manager, Colorado Interstate Gas Co.,
Colorado Springs, Colo.

Dear Sir: We have secured contract with Colorado Portland Cement Company under date of March 26, 1940 for industrial gas service at their Laporte plant for the period April 1, 1940 to December 31, 1940 and enclose herewith two copies of this contract.

The price which we propose to pay you for gas delivered to us for this customer's usage is $9\frac{1}{2}$ c per M.C.F. delivered to us at your Arapahoe measuring station.

Your approval of this rate is requested as early as possible. In as much as the customer advises that they may possibly open their plant as early as April 7. This opening date is contingent on their receiving certain orders for cement which they anticipate. Otherwise they probably will not go into operation before the 20th or the 25th of April.

Yours very truly,

HPD:LK encl.

H. P. DAVIS, Secretary.

Colorado Interstate Gas Company Supplement No. 6.
Effective Date: Filing Date: April 13, 1940 to
Rate Schedule FPC No. 3 (Supersedes Supplement No. 4
to Rate Schedule FPC No. 3).

Colorado Interstate Gas Company
30 Rockefeller Plaza
New York.

April 12, 1940.

Colorado-Wyoming Gas Company, 407 Continental Oil
Building, Denver, Colorado.

Attention: Mr. H. P. Davis, Secretary.

Gentlemen: Referring to your letter of March 29, 1940, addressed to Mr. R. W. Hendee, this is to advise you that Colorado Interstate Gas Company hereby approves the agreement entered into by you with The Colorado Portland

Cement Company under date of March 26, 1940 for supplying natural gas for industrial use in the plant of The Colorado Portland Cement Company near Laporte, Colorado, at the price of twelve cents (12c) per thousand cubic feet, for the term of nine months from April 1, 1940, with the understanding that Colorado-Wyoming Gas Company will pay Colorado Interstate Gas Company at the rate of nine and one half cents (9½c) per thousand cubic feet for all gas delivered to you for this account and sold by you under the said contract, and with the further understanding that Colorado Interstate Gas Company does not undertake to furnish a full and uninterrupted supply of gas, but may at any time and without notice discontinue in whole or in part the furnishing of gas for the purpose of said contract.

Before this approval can be effective, it must be filed with the Federal Power Commission pursuant to the terms of the Natural Gas Act and the rules and regulations of the Commission promulgated thereunder. Such filing will be made by Colorado Interstate Gas Company and in the event the same does not become effective within at least thirty (30) days, the approval given above shall become null and void.

Yours very truly,

COLORADO INTERSTATE GAS COMPANY,
By F. H. LERCH, JR., President.

Federal Power Commission.
Supplement No. 7

To
Rate Schedule FPC No. 3

Filed By
Colorado Interstate Gas Company,
Colorado Springs, Colorado.

Covering Natural Gas Sold To
Colorado-Wyoming Gas Company,
Denver, Colorado.

This schedule consists of letters dated May 15, 1933 and July 28, 1933, approving rate applicable to sale of natural

gas for ultimate resale to Jewish Consumptives' Relief Society.

Colorado Interstate Gas Company Supplement No. 7.
Effective date: July 28, 1933. Filing date: April 23, 1940
to Rate Schedule FPC No. 3.

Colorado Interstate Gas Company
Colorado Springs, Colorado

May 15, 1933.

Mr. H. P. Davis, Secretary, Colorado-Wyoming Gas Co.,
Continental Oil Building, Denver, Colorado.

Dear Mr. Davis: This is in reply to your letter of April 5th, enclosing contracts between the Public Service Company of Colorado and the Jewish Consumptives' Relief Society and Craig Colony dated February 22, 1933 and March 22, 1933, respectively, submitted for our approval.

In this connection we wish to advise that 50% of the price chargeable by the Public Service Company to the consumers will not give the Colorado Interstate Gas Company 12½¢ per M.c.f. for the gas sold and delivered to you for that purpose, and accordingly while the contracts you submitted are satisfactory in all other respects, we cannot approve them unless it is agreed that our price covering the sale of this gas to you at our Arapahoe station shall be 75% of the price chargeable by the Public Service Company of Colorado to the consumers, as shown by the contracts which you have submitted.

Of course, it is understood that this offer if accepted by you will in no wise affect any other contracts which you or your distributing companies may make with industrial consumers, nor will it affect the terms and conditions of the contract between the Interstate Company and your Company dated March 3, 1929, and as amended by supplemental contract dated October 8, 1929.

If this offer is accepted by your Company please so ad-

wise us and you may then consider that the Interstate Company has approved the contracts in their present form.

Yours very truly,

COLORADO INTERSTATE GAS COMPANY,
FORD, BACON & DAVIS, INC.,
General Managers,

By FRANK J. TRELEASE,
Resident Engineer.

FJT:AS

Colorado Interstate Gas Company Supplement No. 7.
Effective date: July 28, 1933. Filing date: April 23, 1940
to Rate Schedule FPC No. 3.

Colorado Wyoming Gas Company

July 28, 1933.

Mr. Frank J. Trelease, Resident Engineer, Colorado Interstate Gas Company, Colorado Springs, Colorado.

Dear Mr. Trelease: Reference is made to your letter of May 15, 1933, wherein you offer to accept an amount equal to 75% of the gross revenue as billed by Public Service Company of Colorado to J. C. R. S. Hospital and Craig Colony, in payment for gas delivered to these customers, in lieu of the original contract rate of 50% of gross revenue provided said 50% does not result in a rate below 12½¢ per M.C.F.

We have given this offer careful consideration and find that insofar as the Craig Colony contract is concerned your offer would result in a slight penalty to us over the original contract rate and we therefore wish to withdraw our request for approval of this contract. However, with respect to J.C.R.S. Hospital contract, we will accept your offer and will agree to pay a price for this gas equivalent to 75% of the amount billed to the customer.

On the above basis we have re-computed your charges for gas delivered to J.C.R.S. and Craig Colony during the period 1-26-33 to 6-25-33 and find that there is a credit of \$66.18 due us. Please have your office review these charges and if you find we are correct, render credit of above amount to our account.

Yours very truly,

H. P. DAVIS, Secretary.

All of the foregoing contracts of Colorado Interstate with these seven customers, namely, Public Service, Pueblo Gas and Fuel, the City of Colorado Springs, Citizens, Arkansas, Pipe Line Company of America and Colorado-Wyoming, were filed by Colorado Interstate with this Commission on August 22, 1938, under a letter stating that such filing was not voluntary but under duress, denying that the company was subject to the jurisdiction of the Commission, and denying that the contracts were subject to regulation and reserving the company's other constitutional and legal rights and ~~the~~ right to contest the authority of the Commission to change any contract price. This letter is a part of Exhibit 6 herein.

In addition to these foregoing contracts with the seven named customers covering gas for *resale*, the company also has industrial contracts with five customers, namely, American Crystal Sugar Company, Atchison, Topeka & Santa Fe Railway Company, Colorado Fuel & Iron Corporation and Colorado Portland Cement Company and United States of America (Department of Interior and United States Veterans Bureau) for *direct* sale of industrial gas. These contracts are listed in Exhibit 8 and are set out in full in Exhibit 9 herein.

EXHIBIT NO. 9.

Application for Natural Gas.

Denver, Colorado, February 19, 1927.

To Ford, Bacon & Davis, Inc., 115 Broadway, New York, New York.

The undersigned makes application and agrees to pay for natural gas by meter for all of our fuel requirements for our entire plant located at Pueblo, Colorado, and known as the Minnequa Plant, excepting from our requirements hereunder our use of all the residuals from our coke plant, including tar, gas, middlings, washer-waste, and all other residual and waste products incident to the manufacturing of coke in our by-product coke ovens, and gas from our blast furnaces, in both cases, as now or hereafter produced, and excepting also boiler fuel at all boilers for the generation of steam. The fuel requirements to be supplied here-

under are estimated at this time to be an average of 12,500,000 cubic feet per day of twenty-four hours, which are to be supplied upon the following terms and conditions:

1. The rate to be paid by us for the gas supplied in each calendar month based upon a meter pressure of eight ounces and payable on or before the 10th day of each month for the gas supplied during the preceding month, shall for the first five years of the ten-year period hereinafter specified be sixteen cents per thousand cubic feet of gas so supplied; for the next five years such rate shall be eighteen cents per thousand cubic feet of gas so supplied. If the gas is required or supplied at a meter pressure exceeding eight ounces, the quantities supplied by reason of excess pressure shall be computed and paid for according to Boyle's Law, adopting 12.4 pounds as atmospheric pressure and 60 degrees Fahrenheit as an average temperature, without other allowances for temperature and barometric conditions.

2. The gas deliverable hereunder shall be merchantable natural gas as produced from your wells, or merchantable natural gas as received by you under any purchase contracts you may make, except that you shall have the right to extract the natural gasoline content from all the natural gas deliverable hereunder, but not otherwise to modify the natural gas. It is agreed that the price to be paid by us for the gas delivered is based upon a gross heat unit content of not less than 950 B.T.U. per cubic foot, measured at a meter pressure of eight ounces above 12.4 pounds atmospheric pressure, at a temperature of 60 degrees Fahrenheit. In the event that the gross heat unit content of the gas furnished hereunder falls below 950 B.T.U. per cubic foot at a measurement pressure of eight ounces above 12.4 pounds atmospheric pressure, at a temperature of 60 degrees Fahrenheit, it is agreed that the price payable by us for gas hereunder shall in such event be proportionately reduced. If the average heat unit content of the natural gas to be supplied hereunder shall at any time be less than 600 B.T.U. for a period of thirty days, then we reserve the immediate right upon notice to cancel this contract.

3. You are to lay your supply line to a point mutually convenient on our property where you shall furnish and set

your meter and regulator, and we are to furnish and install service lines from the meter to our fuel appliances and equip the same for use of gas and to furnish a building suitable for housing meter and regulator. You agree to maintain at the point of delivery of gas to us a pressure of not less than ten pounds and not more than thirty pounds gauge to the square inch, and as nearly as may be practicable, at a constant pressure of fifteen pounds gauge to the square inch.

4. You shall be responsible for the gas until delivered through said meter and regulator, but shall not be responsible for our pipe line laid beyond the meter nor for damages or loss to person or property resulting from our use of the gas.

5. We shall have the right, from time to time, to shut down or to cease to operate our works or to slow down for any cause which we shall deem sufficient, but we agree that if we discontinue the use of gas for said plant for six consecutive months out of any twelve months, you may, at your option, cancel and terminate this contract. You may at any time upon reasonable notice temporarily shut off the gas to be supplied hereunder for the purpose of making necessary repairs; you shall not be held liable for failure to furnish an adequate supply of gas arising from any cause not the result of your negligence. In case of interruption you shall restore service at the earliest possible time, and give as prompt notice as possible of such variation in the supply. If, after written notice from us, you shall fail to supply sufficient gas for our plant during any period of four months, we expressly reserve the right at our option and upon notice to you to cancel and terminate this contract. We understand that the gas which you will supply us hereunder will be from the same source as the supply of gas for the cities of Pueblo, Colorado Springs, Denver, and other places, and, in emergencies or cases of temporary shortage of gas, the demands of domestic consumers upon said supply are to be preferred over service to us hereunder, and we agree that you may under said circumstances pro rate any remainder, after demands of domestic consumers, among your industrial consumers. Nothing herein, however, shall give you the right to exercise such domestic

preference so as to deprive us of the volume of gas needed to complete open hearth heats then in jeopardy and to keep our furnaces warm during extreme domestic demand upon your pipe line.

6. You may at your election suspend deliveries hereunder or terminate this contract for our failure to pay bills hereunder when due, for failure to use gas for fuel in operating our works as aforesaid in accordance with the spirit and intent of this application, or for violation of any of the provisions hereof, without prejudice to your recourse to other remedies otherwise available to you.

7. It is our duty to verify the registrations of the meter and promptly complain if the meter becomes inaccurate; statements of meter registrations shall be rendered monthly by you and said registrations shall be conclusive on both parties up to and including the last regular monthly statement preceding complaint. From and after the last monthly statement preceding complaint, the registrations of the meter, if the meter is inaccurate and during the time it is so out of repair, shall be corrected by the percentage of error found upon test of the meter, or if impracticable to obtain the percentage of error by such test, the registrations shall be estimated by mutual agreement upon the basis of the amount of gas registered by the meter when in proper working order and when a similar amount of subjects were supplied with gas.

8. This application shall be binding upon us for a period of twelve months from date hereof within which time it is contemplated that you will endeavor to secure contracts or franchise contracts in or with the cities of Denver, Colorado Springs and Pueblo upon terms which will justify you in the construction of a pipe line from gas fields in Texas or elsewhere to the Denver, Colorado Springs, Pueblo district; if not accepted within said twelve months by you or by a company which you may organize or nominate for this business, it shall be null and void, but if so accepted by you or by said company or nominee, it shall form a contract to continue for a term of ten years from the date gas is first furnished hereunder, which shall not be later than twenty-four months from the date of such acceptance and

shall extend to and be binding upon our respective successors and assigns, and the election by you, or by a company which you may organize or nominate therefor, within twelve months from the date hereof, to construct said pipeline, shall be conclusively presumed as an acceptance by you or by said company or nominee of the terms of this application. It is also agreed that such contract shall continue in force after the expiration of the definite term above specified until either party gives one year's written notice to terminate same at the expiration of which time the supply of gas under such contract shall cease.

9. In consideration of the terms of this application the undersigned hereby grants to you an option for a period of twelve months from the date hereof within which time you may elect to furnish us, for a period of five years from the date gas is first furnished hereunder, natural gas of the quality hereinbefore described by meter for all our boiler fuel requirements for the generation of steam in the Minnequa Plant, including buildings owned or leased by us on nearby property and used in connection with our business located at Pueblo, Colorado, excepting from our requirements hereunder our use of all the residuals from our coke plant, including tar, gas, middlings, washer-waste, and all residuals and waste products incident to the manufacturing of coke in our by-product coke ovens, and gas from our blast furnaces, in both cases as now or hereafter produced. The boiler fuel requirements to be supplied hereunder are estimated at this time to be an average of 7,500,000 cubic feet per day of twenty-four hours, and such option to you shall be binding upon our respective successors and assigns. We agree to pay for such natural gas by meter for such boiler requirements ten cents per thousand cubic feet of gas so supplied. Except as in this paragraph 9 otherwise stated, the provisions of said application, paragraphs 1 to 8 inclusive thereof shall apply to and be binding upon you and us with respect to such gas as you may furnish under the option by this paragraph given.

THE COLORADO FUEL & IRON COMPANY,
By J. F. WELBORN, President.

Witness:

J. B. MARKS.

26 Broadway
New York

February 1, 1928.

Christy Payne

Personal.

Mr. J. F. Welborn, President, Colorado Fuel & Iron Company, Pueblo, Colorado,

Dear Mr. Welborn: Ford, Bacon & Davis, Inc., at the request of the Colorado Interstate Gas Company, is today forwarding to you an acceptance of the natural gas application for your Minnequa Plant covering the requirements excepting the boiler plant.

As to the Boiler Plant for which the gas in the application is covered in Option paragraph Ninth, we have asked Ford, Bacon & Davis, to reserve action for a few days. It is our intention and desire to supply that gas for five years at 10 cents per thousand, but owing to the negotiations which are being conducted for a natural gas franchise rate in Pueblo and to the peculiar status of the negotiations at Colorado Springs between the Public Service Company and the Municipal authorities, we feel compelled to ask you if your Company would grant a three months extension of the Option on the 10 cent gas. This would give us until May 19th, 1928, to make that part of the contract binding and would still give plenty of time for piping arrangements and for the gas burners to be secured and installed before the Gas Company is ready to make its deliveries. By the way, the pipe line is making such fine headway that there is a possibility that it might be ready to have gas at your plant August 1st, but of this exact date we will give you ample notice.

If you feel that you may, without prejudice to the interests of your Company, grant the extension of three months it would be greatly appreciated. In the meantime we will make every effort to clear up our contract negotiations so as to be able to give notice of acceptance well within the extended time. A form of extension is submitted for your consideration.

Yours very truly,

(Signed) CHRISTY PAYNE.

P:P

Enclosure.

Ford, Bacon & Davis, Inc.

115 Broadway

New York

New York, February 2, 1928.

Denver Pipe Line

Colorado Fuel & Iron Company, Denver, Colorado.

Dear Sirs: Contracts or franchise contracts in or with the Cities of Denver, Colorado Springs and Pueblo upon terms which will justify the undersigned in the construction of a pipe line from gas fields in Texas or elsewhere to the Denver, Colorado Springs and Pueblo districts having been secured, the undersigned, Ford, Bacon & Davis, Inc., hereby accepts your application dated February 19, 1927 for natural gas for all your fuel requirements for your entire plant located at Pueblo, Colorado, and known as the Minnequa Plant, with the limitations specified in the unnumbered first paragraph of your said application.

We do not at this time either accept or reject the option contained in the paragraph numbered 9 of your application dated February 19, 1927 and hereby reserve such option for acceptance or rejection at a later date.

The undersigned, Ford, Bacon & Davis, Inc., understands that this acceptance makes the first eight paragraphs of your application dated February 19, 1927 a binding contract for the supply of natural gas in the quantities, for the prices and under the terms and conditions therein specified.

Your acknowledgment of the receipt of this communication will be appreciated.

Very truly yours,

FORD, BACON & DAVIS, INC.,

By (Signed) G. W. BACON,

Vice President.

GWB:EB

Copy to Mr. Payne, Mr. Von Phul, Munroe, Mr. Hill.

(Draft of Letter).

Denver, Colorado, February 15th, 1928.

Ford, Bacon & Davis, Inc., 115 Broadway, New York, N. Y.

Gentlemen: We, the Colorado Fuel & Iron Company, presented to you our application dated February 19, 1927

whereby among other things, we, by paragraph thereof numbered 9, granted you an option to supply us with natural gas for all our boiler fuel requirements for the generation of steam in our Minnequa Plant, including buildings owned or leased by us on nearby property and used in connection with our business at Pueblo, Colorado excepting from our requirements our use of all the residuals from our coke plant, including tar, gas, middlings, washer waste and all other residuals and waste products incident to the manufacture of coke in our by-product coke ovens, and gas from our blast furnaces, which option was to be exercised by you within twelve months after February 19, 1927. Now, in consideration of your having accepted our application for natural gas in accordance with the first eight paragraphs of our said application, we extend the time within which you may exercise the option contained in paragraph numbered 9 of said application to and including the 19th day of May, 1928.

Very truly yours,

COLORADO FUEL & IRON COMPANY,

By J. F. WELBORN, President.

The Colorado Fuel and Iron Company,

Denver, Colorado

J. F. Welborn, President

February 15, 1928

Ford, Bacon & Davis, Inc., 115 Broadway, New York.

Gentlemen: This is acknowledgment of receipt of your letter of February 2, 1928 in which you state that you accept the terms of a proposal for the use of natural gas in our Steel Plant at Pueblo, Colorado in accordance with a communication termed "Application For Natural Gas" dated at Denver, Colorado February 19, 1927; except, however, as to paragraph 9 of that application, which relates to an option therein granted to you to elect whether or not you will for the period described and at rates proposed furnish an additional amount of natural gas for use under boilers, etc.

Additional questions are now pending relative to exten-

sion of the option period mentioned in paragraph 9, so eliminating from this communication reference to that, we coincide with your view that your letter of February 2, 1928 is an acceptance of the proposal of February 19, 1927 and the two combined constitute a contract for the purpose and in accordance with the terms described in the proposal, leaving, however, the matter described in paragraph 9 for further consideration.

Yours very truly,

J. F. WELBORN.

Exercise of Option.

New York, May 1, 1928.

Colorado Fuel & Iron Company, Denver, Colorado.

Dear Sirs: The undersigned, Ford, Bacon & Davis, Inc., desires to exercise the option contained in the paragraph numbered "9" of your application for natural gas dated February 19, 1927, addressed to Ford, Bacon & Davis, Inc., to furnish you for the period of five years from the date gas is first furnished under said application natural gas of the quality described in said application by meter for all of your boiler fuel requirements for the generation of steam in your Minnequa Plant, including buildings owned or leased by you on nearby property and used in connection with your business located at Pueblo, Colorado, excepting from such requirements your use of all residuals from your Coke Plant, including tar, gas, middlings, washer-waste and all other residuals and waste products incident to the manufacture of coke in your by-product coke ovens and gas from your blast furnaces, in both cases as now or hereafter produced, you to pay for natural gas furnished by meter for such boiler requirements ten cents (10c) per thousand cubic feet of gas so supplied, and hereby gives you notice of its exercise of such option.

Your acknowledgment of the receipt of this notice will be appreciated.

Very truly yours,

FORD, BACON & DAVIS, INC.,

(Signed) WM. VON PHUL,

President.

Copies to Messrs. E. E. DuVall, E. G. Hill.

The Colorado Fuel and Iron Company
Denver, Colorado

J. B. Marks, Executive Vice President

May 4, 1928.

Mr. William von Phul, President, Ford, Bacon & Davis,
Inc., 115 Broadway, New York City.

Dear Sir: I have your letter of May 1st which constitutes your formal acceptance of paragraph nine of our contract for the use of natural gas for boiler and other heating purposes in and about our Minnequa Plant.

Very truly yours,

JBM/MP

J. B. MARKS.

This Agreement, made this 5th day of June 1928, by and between Ford, Bacon & Davis, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of New Jersey, party of the first part, and the Colorado Interstate Gas Company, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, party of the second part:

Whereas, in an application for natural gas dated February 19th, 1927, the Colorado Fuel & Iron Company applied for and offered to purchase natural gas in the amounts, for the price or prices and under the terms and conditions set forth in said application; and

Whereas, said application has been modified, extended and accepted by Ford, Bacon & Davis, Inc., as appears in the letters dated respectively February 1st, 1928, February 2nd, 1928, February 15th, 1928, February 15th, 1928, May 1st, 1928 and May 4th, 1928, copies of which are attached hereto; and

Whereas, said application and acceptances now constitute a valid and binding contract between the party of the first part hereto and the Colorado Fuel & Iron Company; and

Whereas, the party of the first part hereto received and accepted said application for and on behalf of the party of the second part hereto;

Now, Therefore, It Is Agreed:

1. That the party of the first part hereto does hereby sell, assign, transfer and set over unto the party of the second part hereto all of its rights, title and interest, including the right to receive payment of amounts now due or which hereafter may become due, in, to and under its contract with the Colorado Fuel & Iron Company set forth in said application and letters, copies of which are hereto attached.

2. That the party of the second part hereby accepts the assignment from the party of the first part of the said contract and hereby agrees to fully perform the obligations assumed by the party of the first part hereto under or by virtue of said contract and to save the said party of the first part hereto harmless therefrom.

In Witness Whereof, the parties hereto have caused these presents to be duly signed by their respective officers the day and year first above written.

FORD, BACON & DAVIS, INC.,
By WM. VON PHUL, President.

Attest:

H. F. STORCK, Secretary.
(Corporate Seal)

COLORADO INTERSTATE GAS COMPANY,
By CHRISTY PAYNE, President.

Attest:

E. E. DUVALL, Secretary.
(Corporate Seal)

We hereby consent to the foregoing assignment.

THE COLORADO FUEL & IRON COMPANY,
By J. F. WELBORN, President.

Attest:

WENDELL STEPHENS, Secretary.
(Corporate Seal)

[Verification omitted.]

Colorado Interstate Gas Company
Colorado Springs, Colorado

October 18, 1929.

Colorado Fuel & Iron Co., Pueblo, Colorado. Attention Mr. W. A. Maxwell, Vice President.

Dear Sirs: Referring to your letter of October 9th, addressed to Mr. Hill, and confirming telephone conversation with you of today we are willing to permit you to substitute oil for the by-product tar which you are now burning in conjunction with natural gas, in the open hearth furnaces at your plant, with the understanding that an equivalent heating value only of the oil will be substituted for the tar which you may sell, so that our natural gas sales to the Open Hearth Department will remain constant.

Our people in the East are looking into the question of the use of straight natural gas in open hearth furnaces in both the Cleveland and Pittsburgh districts, and hope that you will be able to send a representative to those places to obtain this information as soon as the necessary arrangements have been made within the next couple of weeks.

From our conversation today, it seems to be your feeling that you have already secured full information as to the use of straight natural gas in the steel mills in the above Districts, and you are doubtful as to our being able to secure any information that would be of value to you at your Minnequa plant.

As soon as we receive further information from our people, we will advise you as to the location of the plants they wish to have your representative visit so that you can decide whether it will be of interest to you to get this information.

Yours very truly,

COLORADO INTERSTATE GAS CO.,
By JOHN BARBERY (Signed).

JB:AS

Colorado Interstate Gas Company

26 Broadway, New York, July 21, 1933.

Colorado Fuel & Iron Company, Pueblo, Colorado.

Dear Sirs: We wish to confirm the agreement made with you under date of June 1, 1933 with respect to natural gas to be sold for use at your plant at Pueblo, Colorado. The Colorado Interstate Gas Company is to continue to furnish and you are to continue to take natural gas for all your boiler fuel requirements for the generation of steam in the Minnequa Plant and buildings on nearby property, for the period commencing June 19, 1933 and ending at midnight June 18, 1938, in the amounts and under all the terms and conditions specified in paragraph 9 of the application dated February 19, 1927 addressed to Ford, Bacon & Davis, Inc., which application was thereafter accepted by Ford, Bacon & Davis, Inc., and by them assigned to the Colorado Interstate Gas Company. You are to pay for gas so furnished nine and one-half (9½¢) per thousand cubic feet and all payments are to be made at the time and under the conditions specified in said application.

In consideration of your continuing to purchase natural gas for boiler fuel as heretofore provided herein, the price for all natural gas delivered between June 19, 1933 and June 18, 1938, both dates inclusive, under the heretofore mentioned application of February 19, 1927 (excepting natural gas for boiler fuel requirements delivered under paragraph 9 thereof) shall be sixteen cents (16¢) per thousand cubic feet instead of the price specified in said application.

We trust you will indicate your acceptance of this confirmation of the agreement between us by signing and returning the enclosed duplicate original hereof.

Yours very truly,

COLORADO INTERSTATE GAS COMPANY,

By R. W. GALLAGHER, President.

Accepted:

COLORADO FUEL & IRON COMPANY,

By ARTHUR ROEDER, President.

July 26, 1933.

The Colorado Fuel and Iron Company
Arthur Roeder, Receiver,
Denver, Colorado.

April 19, 1934.

Colorado Interstate Gas Company, Colorado Springs, Colorado.

You are hereby notified that Arthur Roeder, Receiver of the properties of The Colorado Fuel and Iron Company by virtue of an order entered in the District Court of the United States for the District of Colorado on August 1, 1933, in the case of Bankers Trust Company, Trustee vs. The Colorado Fuel and Iron Company, has elected to adopt and continue in force the Contract between Colorado Interstate Gas Company and The Colorado Fuel and Iron Company, dated June 5, 1928, concerning:

Concerns the sale of natural gas by the Gas Company to C. F. & I., for the use at the Minnequa Steel Plant at Pueblo, Colorado.

Yours truly,

ARTHUR ROEDER, as Receiver of the Properties
of the Colorado Fuel and Iron Company,
By D. C. McGREW, Receiver's Agent.

Notice.

Date August 6, 1936.

To: Colorado Interstate Gas Company, Colorado Springs, Colorado.

Gentlemen: You are hereby notified that pursuant to orders of the United States District Court for the District of Colorado, and in accordance with the Plan of Reorganization of The Colorado Fuel and Iron Company, dated March 1, 1935 as filed in and later approved and confirmed by said court, the assets of every kind or nature of said The Colorado Fuel and Iron Company and of Arthur Roeder as Receiver and of Arthur Roeder as Trustee thereof, were conveyed and transferred as of July 1, 1936 to the new Company provided in said Plan; that is, The Colorado Fuel and Iron Corporation, a Colorado corporation.

Among the assets so conveyed is a certain contract, lease or agreement described as follows:

Contract between Colorado Interstate Gas Company and The Colorado Fuel and Iron Company dated June 5, 1928 whereby Colorado Interstate Gas Company sells natural gas to The Colorado Fuel and Iron Company for use at the Minnequa Steel Plant at Pueblo, Colorado.

As of July 1, 1936, therefore, all rights, privileges and liabilities of said The Colorado Fuel and Iron Company, Arthur Roeder as Receiver or Arthur Roeder as Trustee thereof under said agreement were assigned to The Colorado Fuel and Iron Corporation.

Yours very truly,

THE COLORADO FUEL AND IRON COMPANY,
ARTHUR ROEDER, Trustee,
By D. C. McGREW.

Colorado Interstate Gas Company
30 Rockefeller Plaza, New York.

March 7, 1938.

Colorado Fuel & Iron Corporation, Pueblo, Colorado.

Dear Sirs: The existing agreement under which the undersigned is selling gas to you for use at your plant at Pueblo, Colorado, expires June 18, 1938. As a result of certain court proceedings, and in accordance with the plan of reorganization of the Colorado Fuel & Iron Company, dated March 1, 1935, you have succeeded to all the rights of the Colorado Fuel & Iron Company in and to said agreement for the sale of natural gas, and notification thereof was given us by letter dated August 6, 1936 from Arthur Roeder, Trustee of Colorado Fuel & Iron Company. This agreement is made up of a number of papers, consisting of the following:

Application to Ford, Bacon & Davis, Inc., for natural gas, dated February 19, 1927, by Colorado Fuel & Iron Company, and modifications and acceptances thereof, being letters between Colorado Fuel & Iron Company, and Ford.

Bacon & Davis, Inc., dated respectively February 1, 1928, February 2, 1928, February 13, 1928 (two letters), May 1, 1928, May 4, 1928, agreement dated June 5, 1928 between Ford, Bacon & Davis, Inc., and Colorado Interstate Company assigning the contract respecting the sale of natural gas to the undersigned, letter dated October 18, 1929 relating to the substitution of oil for by-product tar, letter agreement dated July 21, 1933, in which the price of gas used for boiler fuel was fixed at $91\frac{1}{2}\text{¢}$ per 1,000 cubic feet, and gas used for other purposes at 16¢ per 1,000 cubic feet.

Copies of the documents constituting said agreement are attached and identified by the signatures of the officers of Colorado Fuel & Iron Corporation and the undersigned.

It is hereby agreed between us that said agreement for sale and purchase of natural gas is extended from and after June 18, 1938 for a period of five years, under all of the terms and conditions as the same now exist, and at the prices of $91\frac{1}{2}\text{¢}$ per 1,000 cubic feet for gas used for boiler fuel and 16¢ per 1,000 cubic feet for gas used for other purposes.

Your acceptance of this on the space provided below will constitute a firm agreement for the period specified.

Very truly yours,

COLORADO INTERSTATE GAS COMPANY.

By F. H. LERCH, JR., Vice-President.

Accepted May 3, 1938.

THE COLORADO FUEL AND IRON CORPORATION.

By W. A. MAXWELL, Vice President.

Payne testified that it was essential to get the C. F. & I. business in order to make the project feasible. That was because of "the volume of gas that could be used by the steel company and the price it could afford to pay . . . The importance was if the project did not have that volume of gas it would not have sales enough to support the project." And speaking of the contract finally negotiated, he said: "I should say it was a very essential contract and a profitable one. The line could not have been built for the Denver domestic load or the C. F. & I. load alone. It had to have both." (Vol. CH, pp. 15809-15810). On cross examination Payne testified that he never heard of any attempts on the part of Cities Service to secure such business from C. F. & I. (p. 15810).

C. F. & I. owned extensive coal lands and mines and orig-

inally used coal exclusively as a fuel in its furnaces, etc. The contract had to be negotiated in the face of this competition (Hill, Vol. II, p. 218; Vol. III, p. 422, et seq.; Rhodes, Vol. IX, pp. 1210, 1211, 1212). In addition to this evidence, already abstracted, Rhodes of FB&D testified:

"Mr. Towers of our organization, to whom I have referred; re-referring to him as a steel man, who was brought up in the steel industry, went into the steel mills down there and investigated all of their processes. He found out what fuels they were using and found out what the cost was for those fuels. He and Mr. Bacon were then able to convince the operators of the Colorado Fuel & Iron that this contract would save them some money." (Vol. XIV, pp. 1942, 1943).

During the life of the original contract, C. F. & I. went into receivership. By letter dated August 6, 1936, the trustee, pursuant to an order of the United States District Court notified Colorado Interstate that all of the bankrupt's rights and privileges under the contract had been assigned to the new company, Colorado Fuel and Iron Corporation, a Colorado corporation, as of July 1, 1936. (Exhibit 9.)

The original contract so assumed by the new corporation would expire by its own limitation June 18, 1938. Just prior to that time Hendee, then manager of Colorado Interstate, started negotiations for a renewal at increased prices. He negotiated for some time with Maxwell, president of C. F. & I. without success. (Hendee, Vol. III, pp. 326, 328). Finally Lerch, then vice-president of Colorado Interstate negotiated a five-year extension from and after June 18, 1938, at a price of 16¢ per Mcf. for all industrial gas except boiler fuel gas, which was to be at 9½¢ per Mcf. This extension was effected by letter agreement dated March 7, 1938, which continued in force and effect all of the other limitations, conditions and provisions of the original contract (Exhibit 9).

Colorado Interstate Gas Company, in its contract with Ford, Bacon & Davis, Inc., engineers for the construction of the line, stated that it was obligated to begin deliveries of gas December 1, 1928 to the distributing companies in the various municipalities involved, for distribution in the fall and winter of 1928, and to supply Colorado Fuel & Iron Company's plant at Pueblo at as early a date as possible (Para-

graph 11, Exhibit 323). Canadian River Gas Company, in its similar contract with the same engineers for the construction of its properties, recited that it desired to begin deliveries of gas to Colorado Fuel & Iron Company December 1, 1928, and as much earlier as possible (Paragraph 11, Exhibit 322). In each contract, the engineers obligated themselves to use all diligence, and were directed to employ additional help to complete construction within the times mentioned. Deliveries to C. F. & I. began June 19, 1928, and to Public Service Company, at the Denver gate, on June 23, 1928.

Colorado Interstate's present contract with American Crystal Sugar Company is also included in Exhibit 9. Hill testified to the negotiations of the original contract with this company's predecessor, American Beet Sugar Company, and an unsuccessful attempt to negotiate a similar contract with Holly Sugar Company. He was unable to complete negotiations with the Holly Company because the same interests that controlled that company also had extensive coal properties. The contract with the American Beet Sugar Company, however, was finally closed "in competition with other fuel, particularly coal". (Hill, Vol. II, pp. 179, 180, 216.) The present contract with the successor company is in substitution of a prior contract dated December 31, 1934. It is restricted to the sale of gas for "purely industrial purposes", and is for a four-year term from and after January 1, 1939. The price is 11¢ per Mcf. with the further provision that the Sugar Company may have the option to elect to take gas in quantities and at a price given to any other sugar company in the vicinity of Rocky Ford, Colorado, "having load factor and volume characteristics similar to those of vendee." Article Seventh of the contract covers the preference of domestic over the industrial gas and contains provision for the interruption of service in case of shortage, similar to the provisions of the C. F. & I. contract which it refers to (Exhibit 9). Provision for the delivery, measurement, billing and payment for gas is also made.

Colorado Interstate's contract with the Atchison, Topeka & Santa Fe Railway Company, hereafter called "Santa Fe" or "vendee", was originally made November 23, 1929, and, with all amendments and supplements thereto, is contained in Exhibit 9. Hill, Colorado Interstate's first manager, testified that this contract was negotiated by him "in competition

with other fuels, particularly coal." (Vol. II, pp. 179, 180.) And again: "I had to figure against the mining costs of the coal to the Santa Fe plus the out-of-pocket cost of hauling it from the mine to La Junta. They wouldn't let me take the coal price plus the freight rate and figure against that. They said: 'No, we haul that ourselves and the only part of that cost that comes out of our pocket in cash is the mining cost, and that is what you boys figure it on.'" (Vol. II, pp. 216, 217.) Continuing, he said that the price for gas had to cut under such coal prices, otherwise the business would not have been obtained; that Colorado Interstate's industrial contracts were not uniform because they were acquired on a purely competitive basis and that his company's charges had to meet such competitive conditions. (Vol. II, pp. 217, 218.) The original contract was for gas to be used as fuel in the main power plant of the vendee at La Junta with the option in the vendee also to take gas for "boiler and other industrial fuel uses in and about its public property (other than the main power plant and its passenger depot, division office and Harvey House at La Junta" and the ice plant located on vendee's property, if vendee should acquire title to that plant. The price was fixed at 12¢ per Mcf. Article Seventh expressly acknowledged the preference of domestic over all industrial gas, including that to be sold to the vendee, similar to the provision in the C, F. & I. contract to which reference was made. The term was for five years. Provisions were included covering the purity and heat standards of the gas, the methods of delivery, metering, billing and payment, interruptions due to *force majeure*, as defined, similar to those contained in the other industrial contracts already abstracted, but with variations to fit the vendee's business. By agreements included in Exhibit 9, the contract was enlarged to cover the sale of gas used by the vendee for "firing of locomotives" and use in its "fire racks and forges" at La Junta, with provisions that in case of shortage in the supply of gas, the vendee would use coal or oil or other fuel for that purpose. After the expiration of the original term and by successive amendments the term of the contract was extended. It is now provided that such contract shall be extended from year to year until either party shall give the other thirty days' notice prior to the expiration of such one-year term.

Colorado Interstate's contract with the Colorado Port-

land Cement Company was dated October 22, 1930 (Exhibit 9), covering the sale of gas "from March to October inclusive and for longer periods each year by mutual agreement, if seller has gas and capacity available." The price is fixed at 10¢ per Mcf. and the contract is for a term of fifteen (15) years after deliveries begin. The contract covers other provisions as to purity and heat standards of the gas and the method of delivery, measurement, billing and payment, comparable to like provisions in the other industrial contracts but varied to meet the vendee's methods of doing business.

Colorado Interstate has two contracts with the United States Government. One is with the Department of Interior, originally made August 2, 1929 between Colorado Interstate and the Helium Company, Inc., later assigned to its parent company, the Girdler Corporation, Incorporated, and finally assigned by that company to the United States Government and accepted by the Government through the Secretary of Interior. The other is with the United States Veterans Bureau (Veterans Administration Facility) dated May 12, 1939. Both are included in Exhibit 9 herein. The first contract, now with the Department of Interior, covered the sale of gas for use as a fuel in the helium extraction plant near Thatcher, Colorado. The price for the gas was at a graduated rate as follows:

First	400 cu. ft. per month.....	\$.90	
Next	600 cu. ft. per month.....	.15 per	100 cu. ft.
Next	1,000 cu. ft. per month.....	1.20 per	1,000 cu. ft.
Next	1,000 cu. ft. per month.....	.75 per	1,000 cu. ft.
Next	7,000 cu. ft. per month.....	.60 per	1,000 cu. ft.
Next	90,000 cu. ft. per month.....	.50 per	1,000 cu. ft.
Next	400,000 cu. ft. per month.....	.25 per	1,000 cu. ft.
Over	500,000 cu. ft. per month.....	.20 per	1,000 cu. ft.

This contract acknowledged the preference of domestic over industrial gas in language similar to that in other industrial contracts and likewise referred to such provisions in the C. F. & I. contract. The term was for five years after deliveries of gas began, which could not be later than ninety days after the date of the agreement. With appropriate variations to meet the vendee's methods of doing business, the contract covered such matters as heat and purity stand-

ards, methods of delivery, metering, billing and payment, already adverted to in other industrial contracts. After the expiration of the original term of the contract and by letter of November 13, 1939, Colorado Interstate proposed to the Secretary of the Interior that the sales be continued under the same terms and conditions except that the price be 40¢ per Mcf., for one year from and after August 23, 1939 and thereafter subject to cancellation by either party on three months' written notice to the other.

The contract was with the Veterans Bureau for the use of gas at the "Veterans Administration Facility" or Hospital at Fort Lyons, Colorado, is for one year but is "renewable from year to year for an additional period of four years, subject to availability of appropriations therefor, without further action on the part of either party, unless cancelled by the Government after ninety days' written notice to the company that the facility at Fort Lyons, Colorado, is to be closed, or because of cancellation by failure of either party to live up to the terms and conditions of the contract after due notice in writing of such failure." The government agreed to take a minimum of 100,000,000 cu. ft. in reasonable proportions each month and to pay therefor at the rate of 19¢ per Mcf. To take care of interruptions, the government agreed to equip certain of its boilers for burning oil and to keep in stock a small supply of oil. Colorado Interstate agreed that if the oil fuel had to be used, it would reimburse the government for the difference in cost in the oil so used and the gas which it replaced, provided the interruption of gas service was due to some cause for which the company was responsible. The contract contained provisions with respect to heat and purity standards and methods of delivery of the gas and the metering, billing and payment therefor, varied to meet governmental requirements. As a part of Exhibit 9 and as a supplement to this contract, there is contained a statement presumably required by the government and made by the company to the effect that the rates in the contract "are not subject to change by any public service or any other governmental commission during the period of the contract, since such rates are not subject to regulatory jurisdiction of any such governmental authority."

9. Fuel Situation in the Territory of Colorado Interstate Gas Company.

Then Hill, first manager of Colorado Interstate's properties, testified as to the negotiations of its contracts for the direct sale of gas to industrial consumers in competition with other fuels, and that natural gas displaced such other fuels. He stated that the contract with the Santa Fe Railroad had to meet the mine price of coal, without any allowance for transportation. He stated that the one originally made with American Beet Sugar, now with its successors, American Crystal Sugar, had to displace cheap coal, and the company failed to get a contract with Holly Sugar Company because of coal competition. He testified as to the same competitive conditions encountered in negotiating every other direct sale contract. He testified to the effect that C.F.&I. was at that time producing coal from its own mining properties. This same witness made a study of the conditions under which Respondents had operated, and would, in his opinion, continue to operate, and which, in his opinion, were competitive.

His studies are found as Exhibits 36-A to 36-S inclusive herein. In addition to his practical experience with Colorado Interstate, his qualifications were: Graduated from Sheffield Scientific School of Yale University in 1904; from then until 1918 he was with Snow Steam Pump Works of Buffalo; then he became Chief Engineer of Southwestern Gas Company of Independence, Kansas, and in 1920 went with FB&D as an engineer and was first engaged in making appraisals of a large number of natural gas properties in the Appalachian Field. He became a vice president of FB&D in 1926 and a director in 1930. During that time he also served as president and operating head of Northwestern Utilities Limited, of Edmonton, Canada, operating a natural gas system in a territory underlain by coal mines. The natural gas was sold in competition with that coal and with wood. Later he managed the properties of Interstate Natural Gas Company operating in the Monroe, Louisiana, gas field and piping the gas to Baton Rouge and New Orleans. With respect to that company he stated:

"In my efforts to build the load of that company I was in immediate competition with fuel oil and found

that my industrial sales, if made, had to be made in the face of that competition and also in competition with wood and coal and manufactured gas." (Vol. III, p. 345).

Later he was general manager of Southern Natural Gas Corporation. That company's line extended from the same Monroe field to Birmingham, Atlanta and other towns in Mississippi, Alabama and Georgia, where he faced extensive competition from coal, particularly in Alabama. (Vol. III, pp. 340, 347). Referring to the factual data assembled in Exhibits 36-A to 36-S inclusive, he said:

"The factual data here compiled shows that this natural gas has to be sold against the competition of other fuels, principally coal and oil; and that these competitive fuels are now being used in large quantities throughout the areas which offer possible markets for the company's gas. It further shows that important natural gas fields exist in Kansas and Wyoming within economic transmission distance of markets supplied by Colorado Interstate Gas Company and that these markets could be supplied with gas from such competitive fields.

"It is concluded from the facts and studies assembled in this statement that the Company's business has to be operated as a highly competitive enterprise and that the business cannot be operated as a monopoly because control of it could not be used to require consumers to pay a price for the gas above the price it would bring under competition; in other words, above its worth to consumers as a fuel competitive to other fuels equally available to them in the open market.

"Because of the inherent characteristics of natural gas as compared with coal and oil, it is generally accepted as a fuel having convenience factors which make it worth more per heating unit than the other fuels. The convenience factors of natural gas most commonly recognized are cleanliness, freedom from ash or waste, simplicity of burner equipment, easy control of combustion, reliability of transport to consumers and in the fact that consumers do not have to invest money in

storage facilities or in supplies of the gas fuel which is paid for only as used. The marketing of natural gas in the face of established use and availability of the lower priced fuels which do not have all of these advantages therefore requires competitive sales effort to convince the consumer that all of such advantages exist in natural gas and have a value to him which he cannot get in any other form of fuel.

"That the basic competition above outlined affects the sale of natural gas in markets supplied by facilities of the Colorado Interstate Gas Company is shown by the following analysis and exhibits. These have been prepared from a study of the use, availability and relative cost of the competitive fuels in the areas where natural gas supplied by Colorado Interstate Gas Company is at present offered for sale. This study shows in general that

"1. There are large reserves of coal, oil and natural gas in or near the markets supplied by Colorado Interstate Gas Company which are or can be sold in competition with that company's natural gas.

"2. Fuels competitive to natural gas are generally cheaper than this fuel, for the same quantity of heat.

"3. There is a much greater use of coal than there is of natural gas in the company's markets. The coal tonnage equivalent to natural gas sold by the company since the start of its operations is only about 10 per cent of total coal production of Colorado in the same period.

"4. The advantage which local Colorado coal has over natural gas from the standpoint of competitive cost, justifies the conclusion that coal should continue to maintain its position as the principal fuel used for domestic heating purposes.

"5. Existing coal resources commercially available in Colorado are sufficient for several hundred years' supply, at present rates of production.

"6. Although fuel oil has some of the convenience factors found in natural gas for both domestic and industrial application, it generally costs less for the same quantity of heat. The use of fuel oil in the company's markets for natural gas has been steadily increasing and is judged to be the most serious competitor of natural gas among users to whom the convenience factors found in both types of fuel have a special appeal.

"7. There are large reserves of crude oil within economic transportation distance of the company's markets for natural gas, which assures a long-term supply of heating oils." (Vol III, pp. 355 to 358).

The areas of productive coal, oil and natural gas competitive to the natural gas sold by Colorado Interstate are shown on Exhibit 36-K. The coal fields were platted on this map in accordance with the U. S. Geological Survey and the oil and gas fields and pipe line from that Survey and the Oil and Gas Journal. This map shows the other existing pipe lines through which natural gas and oil can be supplied in competition with Colorado Interstate. Map 36-L shows the eight railroads available for the transportation of the competitive coal, oil and other fuels in the respondents' territory. Maps 36-M and 36-N show the network of improved highways available for the transportation by motor vehicle of these competitive fuels, and Map 36-O shows the location of the numerous operating coal mines in the coal fields underlying Denver, Colorado Springs and Pueblo and other communities served by the contract customers of respondents.

More specifically as to the competition from coal, he showed in 36-A the annual production in net tons. While this production gradually declined from 9,848,000 tons in 1928 to 5,676,000 tons (United States Bureau of Mines and Saward's Manual), Colorado was still "the largest producer of coal of any state west of the Mississippi River." (Vol. III, p. 366). In 36-B, based on United States Bureau of Mines reports and annual reports of State Inspector of Mines of Colorado, he showed the location of the coal production in Colorado by counties and stated that "approximately 50 to 60 per cent of all the coal produced in Colo-

rado is mined within 50 miles of the coal-consuming areas centering in Denver, Colorado Springs and Pueblo where the principal markets for the company's gas are located; and that 85 to 90 per cent of the total Colorado production is mined within about 110 miles of these areas." (Vol. III, p. 367). In Exhibit 36-C, also based on United States Bureau of Mines figures, he showed the production of by-product coke in Colorado and the increase of that product for domestic use from 68 net tons in 1928 to 1,992 in 1937, the last year for which figures were available. He stated that the Bureau of Mines estimated in 1937 that there were in 1937, 319 billion tons of bituminous, sub-bituminous and lignitic coal in Colorado; half of which could be commercially mined by present methods and which accessible portion amounted to 10 per cent of the total bituminous coal reserves of the United States. (Vol. III, pp. 370, 371). In 36-K, based on Monthly Labor Review published by United States Department of Labor, he showed that the average retail price per ton of bituminous coal in sizes for domestic use had declined from \$10.27 in 1928 to \$7.79 in 1938. Illustrating the present competition from coal for house heating purposes, he described the Lincoln Park Project in Denver, in which 346 family units were just now being built. A central plant would furnish hot water and radiator steam heat to the entire group. It would use coal exclusively in automatic stokers built by Iron Fireman Company, Inc. "Slack sub-bituminous coal will be used and negotiations are at present under way for a contract to supply the estimated annual requirements of 2,000 tons. It is thought that the cost per ton will be less than \$3.00." (Vol. III, p. 393). From Colorado mines alone, there was shipped by rail and truck in 1937, the last year for which complete figures could be obtained, "995,708 tons of domestic sizes of coal . . . into the three areas of Denver, Colorado Springs and Pueblo." (Vol. III, p. 373).

As to the number of retailers of coal, he stated:

"There were, as of October 1, 1940, 378 licensed dealers in the city of Denver of whom 294, according to city records, have established offices within the city. The balance of 84 without offices are judged by the city clerk to be truck operators.

.. . . .

"As of October 11, 1940 there were 47 retail coal dealers in Colorado Springs, and 18 known truck coal dealers making a total of 65 dealers in that city. However, since there is no present law requiring licenses other than common carrier license restrictions, there are probably more than 18 truck coal dealers in this city.

.. . . .

"There were as of October 11, 1940, 43 retail coal distributors in Pueblo. Estimates of truckers or individuals selling coal from their own trucks were estimated at between 20 and 50." (Vol. III, pp. 398, 399).

He stated that this cheap and abundant supply of coal furnished severe competition to the respondents not only in the direct sales of gas for industrial purposes but to its customers who resold gas for house heating and water heating purposes and, to a less extent, for cooking. He stated that if the prices of coal were increased that would relieve competition from coal but if the prices were reduced competition from that fuel would, of course, increase (Vol. IV, pp. 575, 576).

In Exhibit 36-R, he showed for Colorado and other states the percentage of gas, oil, wood and coal being used for the heating of urban homes. Since 72% of the urban population of the state is found in Denver, Colorado Springs and Pueblo (Vol. III, p. 390), he stated that those percentages would obtain in those three cities. He summarized the situation by stating that ten years after the advent of natural gas, the other competitive fuels still supplied nearly 90% of the market, 82.1% of such homes using coal; 10.7% using gas; 6.5% using fuel oil; and 7/10ths of 1% using wood.

As to the competition from fuel oil, he pointed to the nearby oil fields shown on the maps 36-K (Appendix A) and the existing oil pipe line from the important Lance Creek Field in Wyoming extending southward to Denver. He stated:

"The Denver, Colorado Springs and Pueblo market

areas are within practical pipe line and rail transportation distances from the large amounts of crude oil reserve in Colorado and adjacent states." (Vol. III, p. 379).

In Exhibit 36-F, he listed the four petroleum refineries and cracking plants in Denver, the one in Pueblo and those in Boulder and Fort Morgan, just outside of Denver, and the ones in Craig, La Plata, Alamosa and Rangely, also in Colorado but more remote from Denver, all engaged in producing fuel oil. Two of the Denver plants are of 3,000 barrels per day capacity (Vol. III, p. 425). In Exhibit 36-S he showed the drop in tank prices of such oil. In Exhibit 36-Q he showed the increase from less than 5,000,000 gallons of oil used in 1932 to approximately 8,500,000 in 1938 in Colorado. On data included in his opinion, he stated that 72% of this fuel oil was used in Denver, Colorado Springs and Pueblo (Vol. III, p. 390). There were 43 oil burner dealers in the state as of January 31, 1938 (Vol. III, p. 399). The chief competition from fuel oil comes from the owners or tenants of office buildings, apartments, middle size and large residences and from industrial users. According to a recent Denver telephone directory, there are 50 dealers selling fuel oil in the city (Vol. III, p. 434).

As an instance of this competition from fuel oil he cited the construction, just completed, of the so-called Country Club Gardens Apartments, comprising altogether 187 family units divided into five buildings, each with its own central heating and hot water plant. Each building is equipped with oil and gas burners. If gas is used, it will have to be in competition with No. 6 heavy fuel oil "obtainable under contract at 21½¢ per gallon" (Vol. III, p. 394). He concluded that fuel oil was a keen competitor in house heating, water heating, but not for cooking because of its odor and soot. (Vol. III, p. 396).

Electricity, he found not to be in important competition with natural gas as a source of heating, stating, however, that there were a number of domestic consumers in Denver, Colorado Springs and Pueblo who preferred electricity for cooking regardless of its higher cost. (Vol. III, p. 397). He also pointed out that electricity was in direct competi-

tion with natural gas for refrigeration. (Vol. III, p. 397). As to competition from other sources of natural gas, he pointed to the Berthoud, Colorado field already connected to the pipe line of the respondent, Colorado-Wyoming, and to the other small proven fields in Colorado and to the possibility of larger fields being found in Colorado, probably extensions of the enormous Hugoton, Kansas field, the presently known limits of which lie just across the Colorado-Kansas border and the possibility of extensions of the Wyoming fields shown on Exhibit 36-K. With respect to these Colorado gas fields, he concluded: "Probably not enough exploratory work has been done to definitely establish their gas reserves." He gave statistics showing the reserves in the nearby Wyoming fields and in the huge Hugoton, Kansas field and facts as to the feasibility of competitions from these fields with shorter pipe lines than those of respondents (Vol. III, pp. 383 to 389).

The witness Hill presented a study of the comparative costs on a British Thermal Unit (Btu.) basis of natural gas, fuel oil and coal. This study he designated as his Table 10 but it was admitted herein under the designation Exhibit 36-J, as follows:

Table No. 10
Comparative Cost of Fuels
Basis—1,000,000 Btu.

Type of Fuel and Unit Cost	Equivalent Cost per Million Btu.	Equivalent Cost Adjusted for Relative Range of Burning Efficiencies		
	(A)	75%	80%	85%
Natural Gas—850 Btu. per cu ft.:				
at \$0.06 per Therm (\$0.510/Mcf.)	\$0.60	\$0.800	\$0.750	\$0.706
at .07 per Therm (.575/Mcf.)	.70	.933	.875	.824
at .08 per Therm (.680/Mcf.)	.80	1.067	1.000	.941
		50%	55%	60%
Coal—10,000 Btu. per lb.:				
at \$5.00 per Ton.....	\$0.25	\$0.500	\$0.455	\$0.417
at 6.00 per Ton.....	.30	.600	.545	.500
at 7.00 per Ton.....	.35	.700	.636	.583
at 8.00 per Ton.....	.40	.800	.727	.667
at 9.00 per Ton.....	.45	.900	.818	.750
at 10.00 per Ton.....	.50	1.000	.909	.833
Coal—11,000 Btu. per Lb.:				
at \$5.00 per Ton.....	.227	.454	.413	.378
at 6.00 per Ton.....	.273	.546	.496	.455
at 7.00 per Ton.....	.318	.636	.578	.530
at 8.00 per Ton.....	.364	.728	.662	.607
at 9.00 per Ton.....	.409	.818	.744	.682
at 10.00 per Ton.....	.455	.910	.827	.758
Coal—12,000 Btu. per Lb.:				
at \$5.00 per Ton.....	.208	.416	.378	.347
at 6.00 per Ton.....	.250	.500	.455	.417
at 7.00 per Ton.....	.292	.584	.531	.487
at 8.00 per Ton.....	.333	.666	.605	.555
at 9.00 per Ton.....	.375	.750	.682	.625
at 10.00 per Ton.....	.417	.834	.758	.695
Coal—13,000 Btu. per Lb.:				
at \$5.00 per Ton.....	.192	.384	.349	.320
at 6.00 per Ton.....	.231	.462	.420	.385
at 7.00 per Ton.....	.269	.538	.489	.448
at 8.00 per Ton.....	.308	.616	.560	.513
at 9.00 per Ton.....	.346	.692	.629	.577
at 10.00 per Ton.....	.385	.770	.700	.642
		70%	75%	80%
Fuel Oil—138,500 Btu. per Gal.:				
at \$0.06 per Gal.....	\$0.433	\$0.619	\$0.577	\$0.541
at .07 per Gal.....	.505	.721	.673	.631
at .08 per Gal.....	.578	.826	.771	.723

Note: (A) Without considering Relative Burning Efficiencies."

For the purpose of comparison, he used natural gas at price ranges of 6, 7 and 8¢ per therm. The evidence is that the price is 7¢ per therm obtained only from 1929 to 1934 and that now it is 6¢ per therm. When he prepared the foregoing table of the exhibit, he did not consider fuel oil below 6¢ per gallon or coal below \$5.00 per ton, but on arriving in Denver for the hearing and inspecting new housing projects, he found, as already abstracted in part, that the owners were contracting for a supply of bituminous and stoker coal at \$3.00 per ton (Vol. III, p. 416) and for fuel oil at \$1.00 per barrel or 2½¢ per gallon (Vol. III, pp. 426, 427, 432). In further explanation of Exhibit 36-J Hill stated:

"The first column to the left of that table shows the equivalent cost per million British thermal units of natural gas and coal of heating value ranging from 10,000 Btu's. per pound to 13,000 Btu's. per pound at various prices per ton and of fuel oil of 138,500 Btu's. per gallon and various prices per gallon without considering any difference in burning efficiencies between the three fuels; that is, if the oil burned with the same efficiency these relative equivalent costs per million Btu's. of the various fuels would hold. Naturally they don't. They aren't all burned at the same efficiency in domestic appliances.

"The next line from the left shows the equivalent cost per million Btu's. of natural gas burned at 75 per cent efficiency against coal burning 50 per cent efficiency and oil burned at 70 per cent efficiency.

"The next column shows the same figures for gas burned at 80 per cent efficiency, coal at 55 per cent efficiency and oil at 75 per cent efficiency, and the column to the right shows the same figures with gas burned at 85 per cent efficiency, coal at 60 per cent efficiency and fuel oil at 80 per cent efficiency." (Vol. III, pp. 407, 408).

On being asked if those burning efficiencies were such as were met with in practical operations, he replied:

"The figures in the right-hand column are somewhat

higher than would be met with in all but the largest installations, and the figures * * * in the first and second columns from the left more nearly represent realizable efficiency." (Vol. III, p. 408).

On the basis of data already testified to (and abstracted hereinabove) and particularly his Table 10 (Exhibit 36-J), this witness also prepared a chart numbered 3 by him but admitted herein as Exhibit 36-S (Vol. III, p. 408).

Among other things this Exhibit 36-S shows the comparative costs, on a heat unit basis, to the consumer as between natural gas, coal, fuel oil and manufactured gas. For the purpose of comparison he employed the customary unit saying:

"The British thermal unit is the recognized measure of heat, of the heating value, whether of coal oil or gas as a fuel."

" * * *

"A therm contains 100,000 British thermal units."
(Vol. III, p. 406).

This exhibit shows that prior to the change-over on August 1, 1928, from manufactured to natural gas, manufactured gas cost the consumer for house heating purposes slightly in excess of 12¢ per therm in 1924; slightly more than 14¢ in 1925 and 1926; and a little less than 14¢ in 1927. After the cut-over, natural gas cost the consumer for such purposes nearly 7¢ per therm from 1929 to 1934 inclusive; then dropped to slightly above 6¢ per therm for the period 1935 to 1938 inclusive; and from 1939 to date has remained at 6¢ per therm. The house heating customers using Grade 1 fuel oil paid a fraction more than 6¢ per therm to mid-year 1933 and since then has paid slightly less than 6¢ per therm. Using Grade 2 fuel oil he has paid from 1933 slightly less than 5¢ per therm. Using bituminous coal he paid slightly in excess of 4¢ per therm for the period 1925 to 1929 inclusive; then there was a decline in price and since 1933 he has paid approximately 3¢ per therm. In further explanation of this chart Hill stated:

"This demonstrates that both coal and oil have price

advantages over gas in the domestic market. The cost differentials favoring coal over gas are greater than those favoring oil over gas.

"On this chart are also plotted the ratios of cost of gas to cost of coal, for the average house-heating use of 1,650 therms annually, for the years 1924 to 1938, with adjustment for burning efficiencies shown on the chart.

"The sharp drop in this ratio occurring in 1928 and 1929 was due to the reduction in rates paid for natural gas below those paid in prior years for manufactured gas. The rising trend of the ratio of cost of gas to cost of coal occurring in the years 1931 to 1933 was due mainly to drop in coal prices beginning in 1931. Since 1933 the ratio of gas to coal costs has been trending down and at present appears to be stabilized at about 1.25 to 1.30; that is, on the bases shown, the heat content of natural gas costs the consumer about 25 to 30 per cent more than the less convenient coal which indicates roughly what the consumer, free to use coal, pays for the convenience factors present in natural gas. * * * " (Vol. III, pp. 402, 403).

And again:

"The average rates for househeating gas shown in the space at the middle of the chart shows the average rates for househeating gas, grade No. 1 oil, grade No. 2 oil and bituminous coal rated at 12,000 Btu. per pound, therm prices ranging at the present time from slightly over six cents for natural gas to between three and four cents per therm for bituminous coal with a therm price of No. 1 grade househeating oil slightly less than six cents; on No. 2 grade, somewhat less than five cents per therm.

"The curve at the bottom of the chart shows computed ratios of cost of gas and cost of coal based on different burning efficiencies of the two fuels. * * * " (Vol. III, p. 404).

The witness Sands, an engineer, and the witness Bosworth, a graduate engineer and investment banker and one

of the organizers and now chairman of the Board of Directors of Northern Oklahoma Gas Company, and a director of Petroleum Finance Corporation of Texas engaged in the exploration and production of oil, both longtime residents of Denver and familiar with the territory in which respondent sells its gas, gave their opinion as to competitive conditions under which the gas is sold. (Sands, Exhibit 92, pp. 14 and 15, and Vol. XIX, pp. 2706 to 2717; Bosworth, Exhibit 93, pp. 7, 8, 9 and Vol. XX, pp. 2837 to 2842.)

Sands, whose qualifications as consulting engineer in rate matters for municipalities and distributing companies in Colorado, including Denver, (abstracted hereinafter under Title 11), on being cross examined by the Commission attorney with respect to competition between natural gas and other fuels said:

Q. Let's begin from right now for the next few years. Let's take the next five years. How about that?

A. I would say that in the next five years the consumption of gas in Denver would not vary very much from its present status.

Q. Not very much from its present status?

A. That is my assumption.

Q. And over that period of time, even if there were a rate reduction, there would be no perceptible change in volume of gas?

A. That might be. It all depends upon the size of the rate reduction and the conditions of the competing markets.

Now, we are speaking on total domestic, we aren't speaking on cooking and refrigeration. We're speaking about total domestics, of which house-heating is a material part, and any change in the line, either of volume of Mcf. or of dollars would be influenced by the action of coal people and the oil people. People won't pay too much on convenience factors. They will pay a certain amount, but the rank and file won't pay too much for it. We all like luxury. We all like convenience, but there is a limit to which we will go. I'm not evading your question, but I'm just trying to show the factors that make it hard to *rognoscitate*, and I assume that it is going to stay about even as far as dollars and cents are concerned.

Q. Then, it is too difficult to prognosticate what the future demand will be?

A. Very difficult, very difficult on this line, very difficult, particularly at the present.

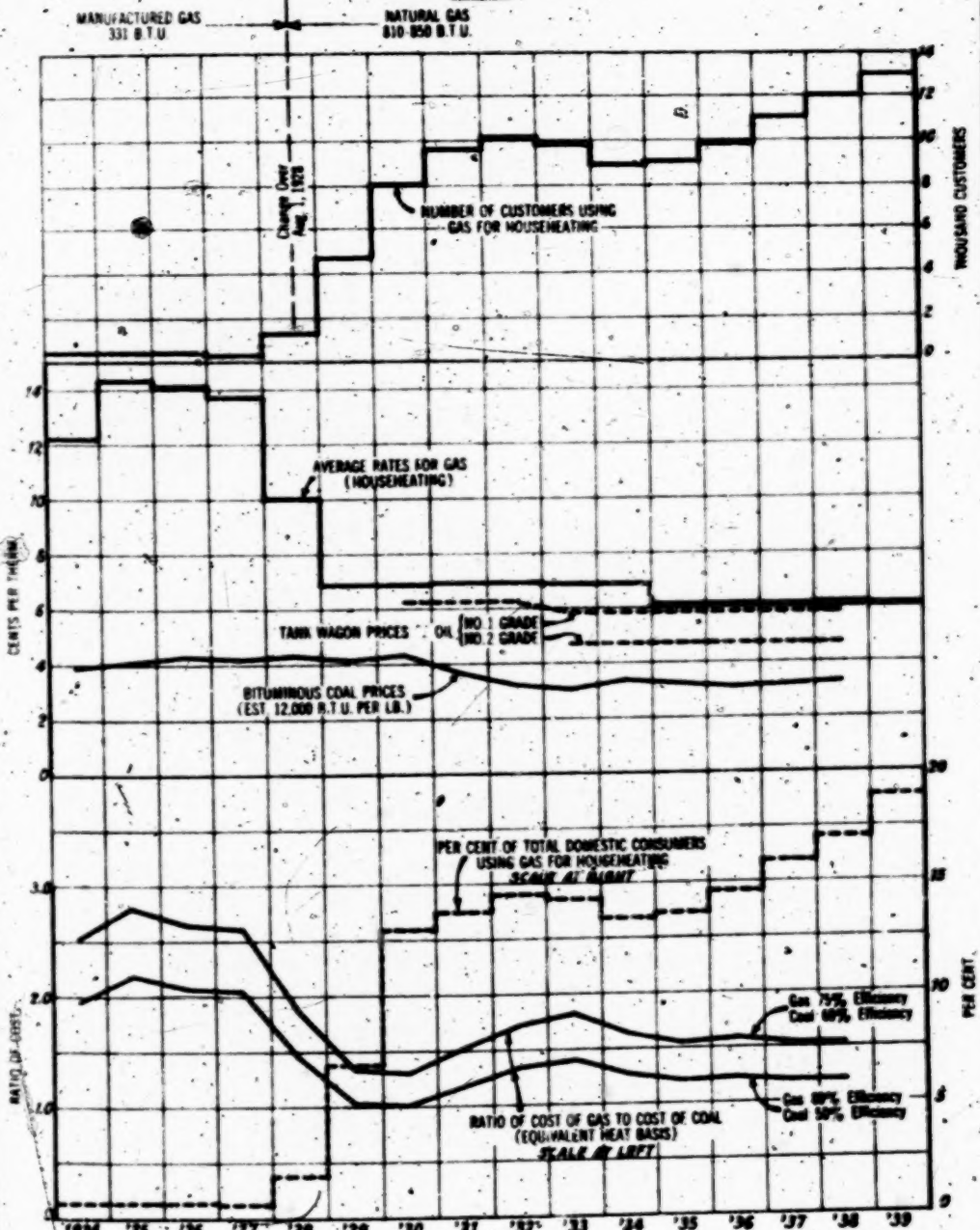
(Vol XIX, pp. 2733-2734.)

RELATION OF
COMPETITIVE FACTORS
AFFECTING SALE OF
NATURAL GAS FOR HOUSEHEATING
— DENVER AREA —

Exhibit No. 36-B

John Bacon & Davis

Engineers



**10. Comparison of Present Day Costs of Natural Gas With
Cost of Manufactured Gas.**

Some of the evidence on this subject offered by the witness Hill has just been abstracted under Title 9 supra and will not be repeated at length.

The City of Denver's franchise grant to Public Service for the distribution of manufactured gas was admitted herein, without objection, as Exhibit 24. In Section 5 the flat price to all consumers and for all uses was prescribed as follows: "Per 1,000 cu. ft. used per month, 90¢," and in Section 6 it was provided that the gas should be measured at 60° Fahrenheit, under a pressure of 30 inches of mercury and saturated with water vapor. It was then specified:

"For the rates herein prescribed the company shall maintain a daily average total heating value of gas so tested at not less than 400 Btu. per cu. ft."

The ordinance of the City of Denver of September 14, 1927, amending the franchise rates of Public Service "for the unexpired term of said franchise" was also admitted herein, without objection, as Exhibit 25. The franchise as so amended prescribed a heat standard for natural gas of 800 Btu. and then set forth the schedule of rates as follows: For the first 400 cu. ft., 90¢; next 600 cu. ft. at the rate of 15¢ per 100; next 1,000 cu. ft. at the rate of 12¢ per 100; next 1,000 cu. ft. at the rate of 7½¢ per 100; next 7,000 cu. ft. at the rate of 6¢ per 100; and for the excess above 10,000 cu. ft. at the rate of 5¢ per 100.

The witness Hill in his Exhibit 36-S took these ordinance rates and heat standards and made a comparison of the costs per therm of the manufactured and natural gas in the Denver area. While both the manufactured and natural gas were by the terms of the two ordinances to be *measured or metered* under the moisture, temperature and pressure standards therein set forth and already abstracted, it was of course necessary for this engineering witness to compare the heating value at the burner tip under atmospheric conditions at the Denver altitude. This resulted in 331 Btu. for the manufactured gas and 810+ Btu. for the natural gas. In this Exhibit 36-S, as already stated, he found

that manufactured gas thus cost the househeating customer in 1924 slightly in excess of 12¢ per therm; in 1925 and 1926 slightly in excess of 14¢ per therm; in 1927 slightly less than 14¢ per therm. After the cut-over the natural gas cost the househeating customer approximately 7¢ per therm from the period 1929 to 1934 inclusive. For the period 1935 to 1938 inclusive, it cost slightly in excess of 6¢ per therm; since 1939 it has remained at 6¢ per therm.

The City of Pueblo's franchise grant to the distributing company, Pueblo Gas and Fuel Company, was admitted herein without objection as Exhibit 39. Section 5, by reference to Ordinance No. 1237, fixed the price of manufactured gas with 400 Btu. heat content for domestic purposes as follows: \$1.50 for the first 400 cu. ft. or less; for the next 2,600 cu. ft., at the rate of \$1.20 per 1,000 cu. ft.; and all in excess of 3,000 cu. ft. at the rate of 90¢ per 1,000. All these quantities and rates are stated on a per month basis. Industrial rates ranged from 70¢ per 1,000 for the first 50,000 cu. ft. to 45¢ per 1,000 for all in excess of 100,000 cu. ft., with a minimum requirement of 100 cu. ft. per hour. In addition there was for both services a customer charge of \$15 per year and a discount for payment of bills within ten days. Section 7 of Exhibit 39 prescribed for the natural gas a heat standard of 800 Btu. per cu. ft. In Section 6 the price was fixed at 90¢ for the first 600 cu. ft. or less; 15¢ per 100 cu. ft. for the next 600 cu. ft.; 12¢ per 100 for the next 1,000 cu. ft.; 7½¢ per 100 for the next 1,000 cu. ft.; and 6¢ per 100 for the next 7,000 cu. ft.; and 5¢ per 100 for all amounts in excess of 10,000 cu. ft. These last two rates were amended by Ordinance No. 1336, admitted without objection as Exhibit 40 herein, to 5.2¢ per 100 cu. ft. and 4.2¢ per 100 cu. ft. respectively.

The evidence contained in Hill's Exhibit 36-S, and in Exhibits 24 and 25 relating to Denver, and 39 and 40 relating to Pueblo, were received without objection. The witness Sands offered for the petitioner Exhibit 296, in which he set forth his computation of comparative costs, which he stated was based on reports filed by the distributing companies with the Colorado Public Utilities Commission, as between manufactured and natural gas, first to the consumer and then to the distributing company. This witness

had already presented on behalf of the company Exhibit 92 entitled "Fair Return for Colorado Interstate Gas Company", in which his qualifications as an expert are set forth at length.

These qualifications are abstracted hereinafter under Title 29 "Necessary Rate of Return"; however, at this point we refer to the following statement from Exhibit 92, which was admitted herein: "Independent consulting engineer since 1927. Rate analysis and design of electric rates for the Home Gas and Electric Company, Greeley, Colorado; City of Glenwood Springs, Colorado; * * * municipal plant of Oak Creek, Colorado; * * * City of Delta, Colorado, * * * of gas rates for the Cheyenne Light, Heat, and Power Company, Cheyenne, Wyoming; of electric and gas rates for the City of Fort Collins, Colorado; of electric, gas, and water rates for the City of Denver, Colorado. Inventory and appraisal of utilities and industrial plants which has involved the following appraisals which have been made for security issues, rate making, or for condemnation purposes: The Public Service Company of Colorado, electric and gas systems in Denver, Colorado; Public Service Company of Colorado, electric system in Fort Collins, Colorado * * *" and numerous other companies and municipalities listed therein. In his testimony the witness stated:

"The relative costs of manufactured gas and natural gas on a heat basis are herein compared. The rates on manufactured gas that were in force just prior to the adoption of natural gas in Denver, Colorado Springs, and Pueblo, respectively, are compared with the rates in force in 1939 for natural gas, by reducing the rates per thousand cubic feet of both manufactured and natural gas to the cost to the customer per million Btu's. at the customer's meter.

"The calculations are based on the data set forth in the study, and are further based on public records, copies of which are fully verified and consist of reports filed with the Colorado Public Utilities Commission, and certified copies of Rate Schedules, Ordinances, and Franchises, all of which are listed in Appendix A.

"There are also set forth analyses of the operating costs and operating revenues of manufactured gas in Denver, Colorado Springs, and Pueblo for the year 1927, and these are compared with the operating costs and operating revenues for natural gas for the year 1939, in each of the three cities.

"The following is a digest of the complete comparison of the cost to the customer of one million Btu.'s of both manufactured and natural gas. These costs are more amply set forth in the Appendix B.

Comparison of Costs Per Million Btu. to the Customer of Manufactured and Natural Gas at Typical Monthly Consumptions for Domestic and Commercial Purposes.

"In the following table is given the cost per million Btu. to the customer of typical monthly consumptions. The cubic foot heading mentioned in the left-hand column are cubic feet of natural gas and in Columns (aa) and (a) are shown the costs per million Btu. of manufactured gas, had the customer taken the same number of Btu. as contained in the quantities of natural gas indicated.

"The burner tip pressure varies somewhat in the different cities and consequently all the computations are based on atmospheric pressure. Results shown, therefore, are comparable and give a true relation to each other.

"Table of Pressures

City	Alt.*	Barometer in inches	Atmos. Press. pounds per square inch	Ratio Atmos. Press. to S. L.	Average Btu. Value Natural Gas Per Cu. Ft. for Dec. 1939
Sea Level		30.0	14.7		991
Denver	5280	24.6	12.05	0.820	813
Colo. Sprgs.	5900	23.96	11.74	0.800	793
Pueblo	4700	25.08	12.29	0.836	828

*From Colorado Year Book—1938-39.

Btu. Value Manufactured Gas Used in Calculating
Comparative Costs

City	Btu. at 30°-60° F.	Btu. at Atmos. Press.	Basis
Denver	400	328	Min. stated Franchise 1927
Colo. Sprgs.	475	380	Affidavit by City Manager
Pueblo	400	334	Report to Colorado PUC

Denver

Cubic Feet Per Month	Cost to the Customer per Million Btu.			
	(aa)	(a)	(b)	(c)
2,000	2.74	2.91	1.85	1.85
6,000	1.68	1.68	1.09	1.14
50,000	1.18	1.18	.60	.69
100,000	1.14	1.14	.56	.65

Colorado Springs

Cubic Feet Per Month	Cost to the Customer per Million Btu.			
	(aa)	(a)	(b)	(c)
2,000	4.21	1.89	1.80	1.80
6,000	3.89	1.84	1.08	1.14
50,000	1.74	1.74	.61	.70
100,000	1.66	1.66	.57	.67

Pueblo

Cubic Feet Per Month	Cost to the Customer per Million Btu.			
	(aa)	(a)	(b)	(c)
2,000	4.79	4.48	1.81	1.81
6,000	4.39	2.39	1.07	1.12
50,000	4.22	1.53	.58	.68
100,000	4.20	1.52	.55	.64

- (aa) Lowest cost of manufactured gas for general domestic and general commercial. Appendix B.
- (a) Lowest cost of manufactured gas for general domestic with house-heating. Appendix B.
- (b) Cost of natural gas, 'General' and househeating' (Rate IG, 3G) and 'Commercial spaceheating' (Rate 7G).
- (c) Cost of natural gas, 'General Commercial' (Rate 5G).
- (d) Cost of natural gas, 'General and househeating' (Schedule No. 1) and 'Commercial spaceheating' (Schedule No. 1B).
- (e) Cost of natural gas, 'General Commercial' (Schedule 1A).

"All the cities have a number of industrial rates for natural gas. Most of these are special purpose rates and a comparison is made only of one of these rates as typical of the others. The rate that is selected is the natural gas rate to be used in industrial manufacturing, urban, and the typical quantity that is selected in the following tabulation is 1,500,000 cubic feet per month.

"This table shows the direct comparison for a domestic customer using 2,000 cubic feet per month of natural gas, a general domestic customer using 50,000 cubic feet of natural gas per month for househeating, a general commercial customer using 15,000 cubic feet of natural gas per month, and an industrial customer using 1,500,000 cubic feet of natural gas per month.

There are also shown the comparative costs to the customers of manufactured gas, had such customers used manufactured gas at the rates in effect prior to the introduction of natural gas and taken the same number of Btu. as contained in the quantities of natural gas indicated. It will be noted that at these respective consumptions the savings to the customer on the respective purchases is shown in the tabulation." (Vol. CI, pp. 15597 to 15601).

This tabulation is set forth on page 4 of Exhibit 296:

**“Comparative Costs per Million Btu. to Customer of Stated
Typical Monthly Amounts of Natural Gas and of
Amounts of Manufactured Gas Containing Equivalent
Total Heat Value**

	2,000 cu. ft. General Domestic	50,000 cu. ft. hseating gen. dom. (a)	15,000 cu. ft General Commercial (c)	1,500,000 cu. ft. Industrial Manufacturing (b)
Denver District				
Mfd. Gas	\$ 2.74	\$ 1.18	\$ 1.31	\$.92
Nat. Gas	1.85	.60	.86	.24
% Savings				
Nat. over Mfd.....	32.48%	49.15%	34.35%	73.91%
Colorado Springs				
Mfd. Gas.	\$ 4.21	\$ 1.74	\$ 2.13*	\$ 1.58
Nat. Gas.	1.80	.61	.87	.25
% Savings				
Nat. over Mfd.	57.24%	64.94%	59.15%	84.18%
Pueblo				
Mfd. Gas.	\$ 4.79	\$ 1.53	\$ 4.27**	\$ 1.73
Nat. Gas.	1.81	.58	.84	.24
% Savings				
Nat. over Mfd.....	62.21%	62.09%	80.33%	86.13%

* Taken on Optional Service Schedule No. 3 available for domestic service.

** Taken on Illuminating or Fuel Gas Rate.

- (a) Where demand rate is used for manufactured gas, maximum hourly demand of 300 cu. ft. is assumed.
- (b) Where demand rate is used for manufactured gas, maximum hourly demand of 15,000 cu. ft. is assumed.
- (c) Where demand rate is used for manufactured gas, maximum hourly demand of 200 cu. ft. is assumed."

Proceeding with his testimony the witness then explained reports filed by the City of Colorado Springs as a distributor of natural gas and of the Public Service Company and of Pueblo Gas and Fuel Company with the Public Utilities Commission of the State of Colorado, he had made an analysis of the operating costs, exclusive of depreciation and taxes, and of the revenues in each city for manufactured gas for the year 1927 and for natural gas for the year 1939. These analyses were set forth in detail on pages 5 and 10 inclusive. He then stated: (Exhibit 296, p. 11; Vol. CI, pp. 15602-15604 inc.)

"The following table is a recapitulation of the savings effected. These savings are in the operating cost (exclusive of depreciation and taxes) and the operating revenue per 1,000,000 Btu.

	Operating Expense per Million Btu.		
	Denver District	Colo. Springs	Pueblo
Manufactured Gas—1927	\$ 1.69	\$ 2.40	\$ 4.06
Natural Gas—1939 .....	.49	.37	.60
Savings	1.20	2.03	3.46
Per Cent Savings 1939 over 1927....	71.01%	84.58%	85.22%

	Operating Revenue per Million Btu.		
	Denver District	Colo. Springs	Pueblo
Manufactured Gas—1927	\$ 2.23	\$ 4.17	\$4.35
Natural Gas—1939 .....	.67	.51	.80
Savings	1.56	3.66	3.55
Per cent Savings 1939 over 1927....	69.96%	87.77%	81.61%

On cross examination, Sands testified:

Q. This study is only intended to show what the gas costs?

A. To the customer.

Q. Sold by whom?

A. The distributing company.

Q. By the distributing company?

A. Yes, sir.

Q. You cover the subject of artificial gas or manufactured gas, too?

A. That is correct.

Q. That also contemplates burner tip sales by distributing companies?

A. That is correct.

Q. Then, the matter of sales at the city gate by the transmission company is not in this picture?

A. Not as far as cost is concerned—yes, it is, as far as cost is concerned. The cost is taken into consideration.

Q. What cost?

A. The cost to the distributing company for gas purchased from the pipe line company.

Q. The cost to the distributing company?

A. Yes.

Q. Do you attempt to show what it costs the transmission company to deliver gas at the various city gates?

A. No.

Q. You don't attempt to make any study in this exhibit of that?

A. No.

Q. You don't purport to do that?

A. No.

(Vol. CI, pp. 15606-15607.)

Q. You took the reports and made these calculations yourself? These aren't calculations of the companies?

A. Oh, no, they are my calculations.

Q. They are related solely to the burner tip costs charged by distributing companies?

A. That is right.

Q. Of both natural and artificial gas?

A. That is right.

Q. Where is the artificial gas sold at present?

A. I didn't get your question, Mr. Lange.

Q. Where at present is the artificial gas sold that is referred to on Page 2?

A. Artificial gas was sold in 1927 or just prior to the initiation of natural gas.

Q. Is there any artificial gas sold either in Denver, Colorado Springs, or Pueblo, Colorado, at the present time?

A. Not that I know of.

Q. How long has it been since there has been any artificial gas sold in any one of those three places?

A. Natural gas came in at Denver in 1929; Colorado Springs, 1931—let me read that over. It came into Denver in 1928; Colorado Springs, 1931; Pueblo, 1928.

Q. Since those dates, there has been no artificial gas manufactured or sold in any of those three places?

A. I think during an interruption—

Q. Other than temporary interruptions?

A. Other than temporary interruptions, there was none that I know of sold.

Q. Then these comparisons between natural and artificial gas don't relate to any presently operating artificial gas sales in either one of those towns?

A. Manufactured gas relates to the conditions maintained as far as gas quality and rates were concerned prior to the initiation of natural gas.

Q. But not at the present time?

A. Not at the present time.

Q. Or at any time since those three years mentioned?

A. I state in the first part of my report: "There are also set forth analyses of the operating costs and operating revenues of manufactured gas in Denver, Colorado Springs and Pueblo for the year 1927, and these are compared with the operating costs and operating revenues for natural gas for the year 1939 in each of the three cities."

Q. You have never been connected with any natural gas distributing company, have you?

A. No.

Q. Or any manufactured gas distributing company?

A. No.

Q. Or any natural gas transmission company?

A. No.

Q. Now, this schedule on Page 4, headed "Comparative Costs per Million BTU," is that the burner tip cost paid?

A. That reads: "Comparative cost per million BTU to customer of stated typical monthly amounts of natural gas and of amounts of manufactured gas containing equivalent total heat value." That is to the customer.

Q. To the burner tip customer?

A. To the ultimate customer.

Q. By the distributing company?

A. That is right.

Q. This confines itself entirely to manufactured gas on Page 4?

A. No, you are mistaken. It is a comparative cost per million BTU to customer of stated typical monthly amounts of natural gas and of amounts of manufactured gas containing equivalent total heat value.

Q. It is a comparison of BTU heat value, that is right. Now, this does not in any manner relate to the city gate rate of the natural gas at any one of the three places?

A. No.

(Vol. CI, pp. 15609-15611.)

Q. Well, what I wanted to get definitely clear--and thank you, Mr. Dougherty--that makes it perfectly clear that this isn't just a study of rate schedules or costs to ultimate consumers as taken from those rate studies, but it is a computation made by this witness to determine costs.

A. In this connection, yes.

Q. Of producing and selling manufactured gas in 1927 and of distributing and selling natural gas in 1939.

Mr. Dougherty: The witness has not made these figures up himself. As he said, he has taken the reports of the respective distributors of gas.

Mr. Lange: That's right.

Mr. Dougherty: And simply transported those figures to his papers and then made computations to get his detailed Mcf.

Mr. Lange: That's right. I just wanted to be sure that that's what he did.

Q. That is correct, Mr. Sands?

A. That is correct.

Q. Then these are cost studies with reference to those several companies that are distributing gas, constructed by you from reports filed with the regulatory agencies?

A. That's correct.

(Vol. CI, pp. 15615-15616.)

Upon offer of the Exhibit, counsel for the Commission objected to its admissibility, and the Examiner sustained the objection. The following proceedings were had:

Mr. Dougherty: I'd like now to offer in evidence Exhibit 296.

Mr. Lange: Mr. Examiner, we object to the introduction of this exhibit. It is entirely different from an exhibit that may take—reports filed with regulatory agencies by companies participating in the proceeding and just setting forth those reports as they are, but here a witness comes and does the very thing that this whole rate proceeding has been carried on for five or six months for. If you could determine costs in that fashion, why have a rate proceeding that takes this period of time?

This witness takes those reports and attempts to make cost analyses of them. Certainly if that could be done, we have done a great many useless things in attempting to bring witnesses here who have made accounting studies and engineering studies and, from those, then, the Examiner

and the Commission will determine cost; but to permit an exhibit like this to be introduced, you are even going on beyond putting price indices in the record that was criticized in the West case years ago.

Now, in addition to that, this witness comes in and attempts to make a comparison after he has constructed what he terms cost comparison of costs of fuel between manufactured gas that is not manufactured here any more and hasn't been for years, and the natural gas.

We are attempting in this proceeding—the entire scope and object of this proceedings has been to present facts and figures on which the Examiner and the Commission can determine the reasonableness of natural gas rates in so far as the companies that are in this proceeding are concerned. We aren't attempting to fix any rate for artificial gas or relate the rates that we fix in this proceeding as to rates that may have been charged by companies distributing artificial gas.

The first point is the fact that every one of these studies pertains to distributing companies. This Commission is not attempting, and could not if it wanted to under the Natural Gas Act, fix distribution rates. We haven't any province in this proceeding to relate the matter that goes into the fixing of natural gas rates at the city gates to distribution rates, per se. Those are all local distribution companies that are set forth in the exhibit. For that reason the exhibit is not competent testimony and doesn't present competent evidence in a proceeding of this character.

So for all of those reasons, Mr. Examiner, I seriously urge not only the testimony but that the exhibit be stricken.

Mr. Dougherty: If the Examiner please, I think everyone will recall part of our case, that the contract was made by the distributing companies in 1938 and Colorado Springs in 1931, setting prices for a period of years to 1948. We have contended right along in this case that those rates as established by those contracts are reasonable and fair rates.

This is testimony that bears on the question of the reasonableness of the contract rates. If there is any public interest in a proceeding of this sort, I take it that it involves what is going to happen in the way of prices which

the ultimate consumer will be charged. I don't think Messrs. Lange and March are fighting for the stockholders of Public Service Company of Colorado. It is the consumer that has to finally pay.

This shows the reduction in price to the public in these communities as a result of the introduction of natural gas and shows also the increases in volumes and sales of gas in those communities from 1928 up to date and that we think bears very directly on the reasonableness of the prices which are charged to those consumers by the distributing companies which in turn, as it is clearly shown by this exhibit, is based on reduced operating expenses at lower costs to the distributing companies themselves.

We have put in testimony as to the competitive fuel situation in Colorado, which bears to that; so that on that feature of our case we think it is very pertinent testimony to determine the question of whether or not the contract rates are reasonable.

There is not any one single way of determining reasonableness of rates. That is, the matter of taking valuation of property, operating expenses and rate of return is not the only way in which that question can be solved, so that that is the purpose that we have in putting in this exhibit and we think it is pertinent testimony.

The Trial Examiner: Quite frankly, Mr. Dougherty, the Examiner is unable to see wherein this particular testimony and the evidence is relevant and material to this proceeding.

The proceeding itself has for its purpose the determination of whether or not the rates now being charged by the respondents in this proceeding are unjust, unreasonable or unduly discriminatory.

Now, to the Examiner, the determination of that question has its genesis in the earning of a fair rate of return upon the property that is used and useful in rendering public service, and I think the Commission in prior proceedings has indicated that same view.

I know of no shortcut or formula whereby the matters that we are called upon to determine here can be determined by a comparison with other fuels. I think it will be agreed that if that could have been done, certainly we would have saved a great deal of time and a great deal of expense to everyone concerned in this proceeding.

Now, as to the matter of the ability of the companies to compete in the market with other fuels, that, of course, is another proposition, but I don't conclude that this exhibit in its entirety is directed at that particular issue in this proceeding. In other words, it deals with manufactured gas and there is no evidence here in the proceeding to show that manufactured gas represents a threat to the ability of the company to make sales to its present customers; and in view of that, the Examiner is rather inclined to sustain the objection of Commission's counsel and also to grant Commission's counsel's motion to strike the oral testimony pertaining to the exhibit.

Mr. Dougherty: May I have an exception, and my offer to prove will consist of the testimony given by Mr. Sands and the exhibit, which, of course, will remain in the record but which will remain as having been physically stricken.

The Trial Examiner: Very well.

(Vol. CI, pp. 15626-15631.)

11. Increased Use of Natural Gas in Competition With Other Fuels.

The Witness Hill in his Exhibit 36-S shows the increase in the number of customers, using gas for househeating in the Denver area, 1924 to 1939 inclusive. From 1924 to 1927 the number of such customers was less than 1,000. After the change-over August 1, 1928 to natural gas, the number has ranged upward until it reached approximately 13,000 in 1939. In his Exhibit 36-S he also shows the "per cent of total domestic consumers using gas for househeating" in the Denver area. Prior to August 1, 1928 the number was less than 1%. In 1939 it was almost 20% (Vol. III, pp. 404, 405).

He testified on cross examination that he had just been informed by Public Service Company employees that they then had in Denver "17,000 gas heating installations". (Vol. III, p.430). At the same time he also testified that so far as domestic consumers using gas for cooking were concerned, the distributing company had "succeeded in selling the domestic cooking market" (Vol. III, p. 434); and that such market was saturated" (Vol. III, pp. 431, 438).

The Witness Rhodes of FB&D, which firm first operated the Colorado Interstate properties, on cross examination testified as to Denver as follows:

"I would say this town was very close to being saturated. * * * I would say the market is saturated with consumers. With respect to all domestic consumers of gas, they are using gas." (Vol. IX, pp. 1205, 1206.)

The Witness Hill in Exhibit 36-G set forth the "Estimated Equivalent Tonnage of Coal Displaced by Use of Natural Gas Sold by Colorado Interstate Gas Company, Years 1929-1939 Inclusive." Describing this exhibit he said:

"This is considered to indicate the maximum tonnage of coal displaced by this gas, because a part of this tonnage would have been displaced by competitive fuel oil if natural gas had not been available.

"Comparison of the tonnage shown as displaced by gas with the total Colorado coal production is made for each year 1929-1939. From this it appears that the tonnage equivalent of natural gas sold in each year has risen from 4.9 per cent of total state production in 1929 to 15 per cent in 1939." (Vol. III, pp. 400, 401.)

On being cross examined with respect to Exhibit 36-G and the displacement of coal by gas he stated that the increased use of natural gas and the efficient use of other fuels had all contributed to the decrease in coal production. There had been a constant increase in gas consumption and a constant decrease in coal consumption. When asked: "Is there anything to indicate to you that that ratio won't be maintained?" he replied:

"A. Yes.

"Q. What's that?

"A. The capacity of the whole Interstate system.

"Q. In other words, you come right back to the proposition that you are practically operating to capacity now.

"A. I say we are operating at peak capacity; that is, on peak days. Of course on non-peak days there is still room for substantial volume of additional business by way of leveling out the total factor and increasing the total sales without increasing the peak-day requirements.

"Q. You couldn't take care of a 12-months period, any additional load?

"A. We would have to be privileged to shut off this additional business on peak days or else increase the facilities required to bring that much additional gas to Denver on a peak day." (Vol. III, pp. 452, 453.)

This same WITNESS HILL, on further cross examination, however, testified as follows:

Q. And you state you had to go up against the coal competition?

A. I did.

Q. Who was the coal company which tried to outbid you for the business? What was the coal company?

A. I can't give you the precise name at the moment, whatever coal companies were the source of the coal fuel at the time. In the case of the Holly Sugar Company at Swink I competed with the coal companies that were owned by the same interests that owned the Holly Sugar.

Q. Who owned the Holly Sugar?

A. The interests were in Colorado Springs and I forget the man's name.

Q. In other words, the same interest that owned the coal?

A. That's it, and I had to figure just the cost of the coal rather than against—

Q. The cost for them to mine the coal?

A. That's it, and the Santa Fe, I had to figure against the mining cost of the coal to the Santa Fe plus the out-of-pocket cost of hauling it from the mine to La Junta. They wouldn't let me take the coal price plus the freight rate and figure against that. They said, "No, we haul that ourselves and the only part of that cost that comes out of our pocket in cash is the mining cost, and that is what you boys figure it on."

Q. So in figuring your gas rates to these large industries you had to cut under the coal prices?

A. Absolutely.

Q. It was purely competitive?

A. Purely competitive.

Q. You did cut under coal prices? You cut clear under, or you wouldn't have gotten the business?

A. Otherwise we wouldn't have gotten the business.

Q. About what rate did your contract provide for that you mention?

A. I would say that it was under twenty cents a thousand.

Q. Was it a lot lower than that?

A. I said under twenty cents a thousand.

Q. Wasn't it twelve cents a thousand?

A. It might have been. There may have been cases where it was twelve.

Q. And some cases ten?

A. I couldn't recall, but I wouldn't be surprised.

Q. In other words, these interests get gas at varying rates. There is no uniformity?

A. No.

Q. Purely a competitive proposition?

A. Absolutely.

Q. And you just charged what you could?

A. What we could under competitive conditions.

Q. Now, did you have anything to do with the negotiation of the Colorado Fuel & Iron Company contract—corporation?

A. No.

Q. Ford, Bacon & Davis, Inc. negotiated that contract?

A. Yes, they did.

Q. For Colorado Interstate?

A. Yes. I think really before Colorado Interstate was formed and when the project was at its embryo, that was one of the essentials.

Q. That was one of the factors to the original agreement. They had to have the money in the bank before they could even go forward with the project?

A. You have said it. You are absolutely right.

Q. Who did negotiate that contract?

A. George W. Bacon and James F. Towers.

Q. What was their position?

A. George W. Bacon was Chairman of the Board of Directors and Towers was Vice President.

Q. Was the Colorado Fuel & Iron Corporation the largest owner of coal lands in Colorado?

A. I couldn't say.

Q. They were large?

A. They were very substantial.

Q. They furnished all their coal from their own properties?

A. Well, I couldn't say that. If you say so I'll accept it.

Q. I wouldn't want you to accept—

A. Well, they may be, but I don't know. I never had occasion to find out.

Q. In other words, you never had anything to do with that contract?

A. No, sir.

Q. In fact, you don't know just how important that contract was?

A. Oh, indeed I do. It was the keystone to the arch, you might say, one of the pillars of the church.

Q. You had to have the Denver business?

A. That was one of them.

Q. This pillar down there at Colorado Fuel & Iron, that pillar gets its gas at about twelve cents, doesn't it?

A. I would say it averages less than fifteen. I don't know what precise figure.

(Vol. II, pp. 216-219.)

Q. You prepared this report—do you consider you prepared this for both the Canadian River Gas Company and the Colorado Interstate Gas Company?

A. No. I outlined in the report here the Colorado Interstate principal consuming centers.

Q. Did you consult with the Public Service Company of Colorado?

A. I think that Mr. Drew got some assistance here, not much; that is, he was here and I know that he met some of their people and I think that they may have given him some help in getting some of his information. I know they gave me some.

Q. What did they give you?

A. They gave me transportation.

Q. They gave you transportation?

A. Yes, sir.

Q. In what?

A. An automobile and a driver.

Q. They gave you all that—oh, you mean they furnished you with the transportation?

A. The means of getting around here to see whoever I wanted to see.

Q. In other words, they turned certain of their facilities over to you?

A. Very courteously, as I expected they would.

Q. How's that?

A. They did so, very courteously.

Q. How long were you here?

A. I used their automobile for perhaps a total of three or four hours.

Q. Did you use any of their staff?

A. One of their men went with me.

Q. And they didn't submit to you any written reports?

A. No.

Q. What portion of this report did they furnish you the data for?

A. None.

Q. Do you know anything about the local gas situation here in Denver?

A. Indeed I do.

Q. Do you know anything about the local coal situation here in Denver personally?

A. Personally in Denver—I've never lived here, no. I was in Colorado Springs only.

Q. You don't know personally and directly whether coal is a very serious competitor here of gas or not, do you?

A. Oh, yes.

Q. It's just hearsay with you, isn't it?

A. It's common knowledge in my profession, I think. If I didn't know that; if I hadn't put myself in a position to know the competitive situation here I would hardly care to appear before this Commission.

Q. I understand, Mr. Hill, you just accumulated a group of data here from public documents and from other sources and you just reproduced it here, you didn't personally write all of these, make all of these analyses and write all these reports, and your men didn't do it, did they?

A. Just what do you mean?

Q. They just compiled here a bunch of statistics which they got from various sources?

A. And which they submitted to me.

Q. And which they submitted to you.

A. Right.

Q. What I'm trying to bring out in the record here is that you didn't personally make an analysis of the coal situation here in Denver?

A. After I got the coal prices and the proper labor statistics and the gas prices with my general knowledge acquired over a period of years, if I couldn't make these deductions here, I would ill deserve my position.

Q. The basic data came from these other sources?

A. Why, yes. Every engineer in making deductions must of necessity be guided by basic data.

Q. How much information in this report did the City of Denver furnish you?

A. The City of Denver—well, let's see. The Commission gave Mr. Drew certain statistical information.

Q. The City Planning Commission?

A. The City Planning Commission.

Q. What did they give you? What data did they give you?

A. Well, let's see—excuse me, the State Planning Commission.

Q. The State Planning Commission?

A. Right. Exhibit 36-N. When I said "City" I'm thinking about New York City where we have a City Planning Commission.

Q. The City Planning Commission gave you that map?

A. They gave it to Mr. Drew.

Q. All of the lines on it like it is here now?

A. I wouldn't swear to it.

Q. I notice here the source of information given on here is the Colorado State Planning Commission and P.U.C., 1935. Is this the latest information you could get on this, was 1935?

A. That's the latest we got. All that shows is the availability of these roads. All you've got to do is to get a car and ride over them and you'll find they are good roads.

Q. Have you ever done that?

A. Indeed I have. I have driven many many thousands

of miles over these highways. Not all of them, but many of them.

Q. What else did you get from the State Planning Commission?

A. I'll have to go through every one of these exhibits and look. Map No. 5, Exhibit 36-O.

Q. I notice, if I'm looking at the right map, all the lines on this map—

A. No, I told you—

Q. Oh, yes, you went over that. I beg your pardon. You got this from the State, or did your assistant?

A. My assistant.

Q. Well, you needn't go any further with that.

I'll ask you about this information you got from this Mr. Wendell Hedgecock, Chief Engineer at Denver Housing Authority. I think you testified and it is on Page 23 of your written statement that these projects used coal because coal was cheaper. How do you know it was cheaper?

A. I know that it can be bought for prices that I understand—well, around three dollars a ton. I know it's cheaper. Mr. Hedgecock didn't tell me that, he told Mr. Drew that, but I went over and looked at the project and looked at the apparatus, the way they were rigging up to burn this coal and I was perfectly certain that coal can be bought for three dollars a ton.

Q. Do you know what the market price of coal is here in Denver?

A. The domestic coal runs up around seven or eight dollars. The price we used as shown in Table No. 8, now that of course, that range of prices is for prepared sizes. Three dollars we are talking about is bituminous, slack and stoker.

Q. Do you know that is the kind of coal they are burning there in that project?

A. They aren't burning any coal there, they are just putting the equipment in.

Q. I mean when they get ready to burn it.

A. I know it is designed to burn that.

Q. You went out and looked at it?

A. Oh, yes, I did.

Q. This engineer didn't tell you it was cheaper for you to use coal, did he?

A. He didn't tell me anything.

Q. You just guess that the reason they were using coal was because it was cheaper to use coal?

A. I didn't guess anything about it. I made that assumption.

Q. Well, call it an assumption.

A. I know that that plant out there is designed to use slack, sub-bituminous stoker, and I'm perfectly certain we won't be able to compete with that.

Q. You just have to assume that. You haven't made a careful study of that; is that right?

A. Well, that's my assumption.

Q. It might be that for all you know, it might be using coal out there because they want to accommodate some of these coal producers here in the state?

A. They aren't using coal out there.

Q. I mean when they do use coal out there. That might be possible.

A. What their basic reason is I don't know, but I make my own assumption.

Q. Yes, I just want to get that clear.

What are you trying to do, sell coal or gas?

A. I'm not trying to sell anything. I'm testifying to the best of my ability at the hearing before the Federal Power Commission at the City of Denver.

Q. Now, as I gather here, it's your contention that it is really cheaper for these people here in Denver to use coal than it is to use gas?

A. That's not my contention, that's my knowledge.

Q. You think it is cheaper to use coal than gas, is that your conclusion?

A. I'm certain it's so. If they are only considering their fuel cost and no other conveniences they wouldn't use gas when they can get coal and oil at these prices. They use gas because they like it.

Q. You didn't have any of this market here to begin with, did you, I mean before they built the pipe line there wasn't any gas sold here in Denver?

A. Oh, yes, manufactured gas.

Q. There wasn't any natural gas, though?

A. No, sir.

Q. Did you take the market away from the coal producers or the manufactured gas plants?

A. Well, we took away, we think, about as much of the coal people's market as I have outlined in that report, and of course the distributors who were formerly handling manufactured gas are now distributing natural gas.

Q. Do you know who the largest coal distributor in Denver was when you built your pipe line up here?

A. Rocky Mountain Fuel. If it wasn't Rocky Mountain Fuel, I don't know.

Q. You aren't familiar with the expenditure of large sums of money by the Colorado Interstate Gas Company to secure the right of way in Denver, are you?

A. Secure the right of way in Denver?

Q. Yes. —I mean, pardon me, I should word that large sums of money to secure the business—the Denver business.

A. What are you driving at?

Q. I'm driving at the expenditure of four hundred and some odd thousand dollars to extend the capital accounts.

A. Whose?

Q. Of Colorado Interstate, to get the business here in Denver.

A. Expended by whom and to whom?

Q. Expenditures; for example, to Mr. Smith.

A. Counsel?

Q. Yes.

A. I am generally familiar with that.

Q. Did you have anything to do with those expenditures?

A. No, sir. Go on from there.

Q. The expenditure of \$350,000 to Mr. Bonfils? He was the largest coal operator in Denver, wasn't he?

A. He ran the Post coal company.

Q. Wasn't he the largest distributor of coal in Denver?

A. I don't know.

Q. Do you know anything about the payment of \$350,000 to him?

A. No, I don't.

Q. By the Colorado Interstate Gas Company?

A. I didn't know they made that payment.

Q. You don't know anything about that?

A. No.

Q. You don't really know who was distributing coal or anything about it at the time you put natural gas in here?

A. No, at the time we put natural gas in here I knew

the Post Coal Company was here. I saw their ads scattered in the newspapers.

Q. They aren't in operation now, are they? Do you know whether that company is in operation now or not?

A. I do not. I don't know anything about their affairs.

Q. Do you know what companies are the biggest competitors here in town now of the Public Service Company of Colorado—coal companies.

A. No.

Q. Do you know whether there are any companies here that are serious competitors or not?

A. I don't know any specific ones. I know coal is a competitor.

Q. You know that generally as an engineer. You wouldn't have to come to Denver to know that: just as a general reputation?

A. Well, for instance, you couldn't make that statement in the City of Dallas or the City of Amarillo. You'd have to know your city and the situation in order to make a statement of that kind.

Q. I mean you didn't have much trouble in getting the business of these large industries, did you, Colorado Fuel & Iron, for example?

A. That negotiation was handled prior to my coming out here by two of our organizations. They succeeded in getting that business. How much effort it took them I couldn't say. They were here quite a long while.

Q. Do you know that Colorado Fuel & Iron Company is the largest holder of coal lands in Colorado?

A. I don't.

Q. Do you know that the Rockefellers control the Colorado Fuel & Iron?

A. I don't.

Q. But you do know that the gas price in that contract was fixed purely on a competitive basis?

A. I know what the prices were and I know that they were arrived at after negotiations and discussions, and I also know the comparable prices for natural gas and coal fuels in the steel district of Alabama. Now I didn't negotiate this Colorado Fuel & Iron contract. I'm going to answer your question yes and say they were on competitive basis.

Q. I believe you stated here in your testimony that in some cases the domestic use of coal—I mean the domestic use of gas, where the price to domestic consumers was reduced for these purposes like waterheating and all of that, it immediately increased the use of gas for that purpose?

A. Well, Denver has a highly promotional rate as you undoubtedly know, a rate with a very steep slope. Now does that answer your question? Yes, a very steep, quick breaking promotional rate.

Q. In order to get this large industrial load that you have here in Colorado you had to underbid the coal men, didn't you?

A. I had to show the consumer a lower overall cost if he used my gas than if he kept on with his present fuel. If that answers your question, yes, I think the answer would be yes. On the strict thermal content basis, I didn't have to underbid him, no.

Q. When you went up to a large industrial, you sold him on the idea that it would be cheaper to use gas; it would mean more to his business?

A. More money.

Q. He could produce his product cheaper, labor costs and everything?

A. Everything taken into account.

Q. Yes. If you went out here to sell this gas to domestic consumers, you didn't make that kind of argument, did you?

A. I didn't try to sell any gas to domestic consumers.

Q. Do you think that the people that did didn't make that argument?

A. Why, it's obvious that when natural gas came into Denver the domestic consumer got a lower rate.

Q. Than they had from manufactured gas?

A. Right.

Q. In the large industries, they don't care whether the gas is dirty or clean, do they? What I mean—

A. You couldn't burn dirty gas.

Q. What I mean is this, pardon me—what I mean is this, that wouldn't be the deciding factor in whether or not they used gas or coal?

The Trial Examiner: In other words, they wouldn't consider the convenience of natural gas?

The Witness: All they look at is the dollars.

The Trial Examiner: That's what you mean?

By Mr. March:

Q. But you testified here that the residential consumer, although they can't get gas as cheap as they can coal, they use gas because—a great many of them do—because it's cleaner and more convenient?

A. Yes, I think that is a correct statement.

Q. That is the sole reason. If they were going in to get the most economical heating commodity they would use coal, wouldn't they?

A. They would use kerosene, I think.

Q. You said coal in here, didn't you?

A. Well, let's read it.

Q. Kerosene—I don't recall that, do you?

A. In the middle of Page 25.

Q. They would use kerosene?

A. Yes, sir. If they wanted to get their cooking for the lowest dollar they would use kerosene.

Q. Do you know how much kerosene comes into Denver?

A. I know there are four refineries here in Denver that are making it.

Q. How many?

A. Four.

Q. Where are they?

A. Right around town here.

Q. How big are they?

A. One of them is about—I'd say from looking at them about three thousand barrels a day, for two of them. I've got them here in an exhibit—moderate sized refineries, two pretty nice ones.

Q. Do you know whether the use of kerosene is increasing or decreasing for fuel use in Denver?

A. I understand the use is very negligible.

Q. It is very negligible?

A. Very negligible.

Q. It is cheaper but they don't want to use it?

A. That's right.

Q. Why don't they?

A. They don't like it.

Q. It is inconvenient?

A. Inconvenient and smelly stuff.

The Trial Examiner: The hearing will stand in recess for five minutes.

(At this point a short recess was taken, after which proceedings were resumed as follows:)

The Trial Examiner: The hearing will be in order.

By Mr. March:

Q. Kerosene isn't a serious competitor, then?

A. In Denver?

Q. Yes.

A. No, sir.

Q. Not even a potential competitor?

A. I would say a potential competitor but not an actual competitor.

Q. What type of fuel is second cheapest fuel in Denver?

A. Oil—for cooking you mean?

Q. For—we'll say cooking first.

A. Cooking—I put electricity the most expensive, gas the next, coal next and kerosene last.

Q. What about your industrial?

A. Industrial?

Q. Yes.

A. That somewhat depends upon the nature of the use but with fuel oil here at a dollar a barrel, two and a half cents a gallon roughly, if you had very much of it I think that you would find fuel oil a competitor in the higher grade uses with coal still the most serious competitor in the lower grade uses.

Q. Gas is the cheapest fuel for industrial use in Denver, isn't it—large industrial use?

A. I would say that it should be.

Q. You don't know?

A. Well, I say it should be. You see you have got to consider the application.

Q. All of this testimony is just on a bunch of assumptions, isn't it?

A. Oh, no, no, no. I haven't testified here that gas is the cheapest fuel. I say it is a competitive fuel. It makes its way—it fights its way by competition against other fuel. It has to struggle to live. It has struggled.

Q. Which is the cheapest fuel, for large industrial users?

A. It depends on the rate.

Q. Don't you know what the rate is?

A. Well, I know that they have got a bottom step in Denver here of twelve cents which is the lowest step. That ought to do pretty well competitively;

Q. I see, you just don't know what the cheapest is, though, do you?

A. Well,—

Q. In other words, you don't want to answer that directly?

A. You can't answer it directly, you can't.

Q. Can you answer any of these questions directly which is the cheapest fuel?

A. Well, ask me one and see.

Q. Well, we've left the industrial consumer. Now we'll go over to something you can probably answer right off—domestic consumers.

A. The domestic consumer?

Q. Yes.

A. You are talking about dollars and cents only?

Q. Talking about which is the cheapest for the domestic consumer in Denver.

A. I have already answered that question and I'll answer it again.

Q. Yes.

A. I think that if the domestic consumer is thinking about dollars only he'll use kerosene. If he used kerosene first he'll use coal next; he'll use gas next and he'll use electricity last. Does that answer your question?

Q. Yes. Now, if you would answer that question as fluently for the industrial load—

A. I can't without knowing the rate applicable, the class rate applicable.

Q. You don't know what the rates are here in Denver?

A. Well, I don't know every class rate in the industrial schedule. I haven't made any pretense of knowing it.

Q. You were chiefly interested in domestic loads when you made your study?

A. Domestic load and knowing that the situation with respect to the industrial business was about the same here

as it is on the other portion of the Colorado Interstate system.

Q. Well, you don't have any other portions—what other portions do you have on the Colorado Interstate system serving domestic gas?

A. I said industrial, I didn't say domestic.

Q. Oh, industrial.

A. Oh, we have Pueblo and Colorado Springs.

Q. How do their rates compare with Denver?

A. The rate in Pueblo is the same. The rate in Colorado Springs is the same except that for the first four hundred feet in Pueblo is fifteen cents cheaper than it is in Denver.

Q. The difference between the domestic rates in Cheyenne and Denver, do you know that?

A. I don't know Cheyenne.

Mr. Dougherty: Excuse me, Mr. March. You said Colorado Springs and then you said the rate for the first four hundred feet in Pueblo is cheaper.

The Witness: No, in Colorado Springs is fifteen cents cheaper than in Denver and Pueblo.

By Mr. March:

Q. You think that oil is a very serious competitor here in Denver for domestic use?

A. For heat?

Q. For heat?

A. Well, it is on a cost basis. There is no reason why it shouldn't be; that is, I know that they had a certain number of oil burners in the area in 1938. I don't know how many they have got now but I know we've got here in Denver, the Public Service fellows say they have approximately got now 17,000 gas heating installations.

Q. Gas heating installations?

A. Yes.

Q. You don't know how many oil heating installations there are?

A. No. I would guess there would be quite a few less, a good many less based on the base figures that I had for 1938.

Q. Well, I don't want your guess.

A. I can't give you the exact figure. I gave you the figure for 1938 but I can't give you the figure for 1940.

Q. Do you know whether the use of oil is increasing or decreasing?

A. Increasing, definitely.

Q. How do you know that?

A. On the charts I showed you.

Q. The price is increasing or decreasing?

A. The price—now let's see. It looks like from Table 9 the prices have been pretty stable for the last eight years.

Q. Small domestic consumers such as householders don't use oil, do they, very much?

A. For what?

Q. For heating or anything else; for cooking.

A. I don't believe they use very much for cooking. I am sure they don't in this part of the country.

Q. You don't know though?

A. Well, I do know. I know the Public Service Company couldn't have the saturation they have if there was much oil competition for domestic cooking.

Q. You know they couldn't charge the rates they do if there was domestic competition, don't you?

A. Well, that doesn't quite make sense because right now the price of kerosene for cooking—

Q. Kerosene is out of the picture as I understand.

A. Because people don't like it.

Q. Yes.

A. But it is perfectly adaptable if—I mean if the price of gas were so high that people had to use a substitute they could use kerosene if they wanted to perfectly well, and save money.

Q. Let's forget about kerosene.

A. All right, talk about coal.

Q. Talk about these questions I've asked you about.

A. Well, you can't use fuel oil for cooking.

Q. That's what I want to know is whether or not the fuel oil is a serious competitor of gas, small domestic; for any purpose.

A. I would say no; that is, with the possible exception of househeating. I would say it wasn't particularly serious there.

Q. Chiefly where the competition of fuel oil comes in is in these large office buildings, isn't it?

A. Office buildings, apartments, industrial uses and I would say in medium sized and larger residences.

Q. Do you know whether or not there is a special gas rate—

Mr. Spencer: Let him finish, please.

Mr. March: Pardon me.

The Witness: Oil at a dollar a barrel is also a potential industrial customer, definitely industrial customer.

By Mr. March:

Q. But I didn't ask you anything about the industrial situation. We have already discussed that.

A. All right, I'll withdraw that.

Q. There is a special rate, competitive gas rate to these large office buildings caused by this competition in fuel oil?

A. I don't know the rate, but I'd say there would have to be one, yes.

Q. In other words, they would have to come down and meet competition there?

A. They certainly would.

Q. The only real competitor so far as the small domestic consumers' business is concerned of gas is coal, then, is that right? I mean serious competitor?

A. I don't think they have a serious competitor in Denver, as a matter of fact. They have potential competitors, but I don't think they have a single serious competitor.

Q. In the coal business?

A. For cooking for the small user.

Q. In other words, they have got that market to themselves?

A. I think that the gas company has succeeded in selling the domestic cooking market.

Q. What about the domestic load, small domestic consumer?

A. What do you mean, "the small domestic load"?

Q. Household consumer, taking all of the small householders' consumption combined, is coal a serious competitor?

A. I think it is, definitely.

Q. It isn't the only serious competitor, is it?

A. But not actually for cooking; that is, hot water-heating and house heating, it is a serious competitor, but I consider oil just as serious for house heating, large or small consumers, it doesn't make any difference.

Q. I note here—just one more question about this oil. You don't know who sells oil in Denver, crude oil, do you?

A. Crude oil?

Q. I mean, not crude oil, but this fuel oil.

A. I know that I have seen trucks on the street of the Perry Refining Company labeled "fuel oil." Now,—because they have got "fuel oil" on the side and it stands out. I don't know. I presume others do too. I don't know. I know the telephone book has got about fifty of them, as I recollect. I looked them up.

Q. Do you know what percentage of the market they have here in Denver?

A. For domestic heating?

Q. Yes.

A. No. I gave it to you in 1938.

Q. Do you know whether it is on the increase or decrease?

A. I only know that the sales of these oils are increasing and I gather that their use is increasing.

Q. You're just surmising that?

A. They either use it or pour it down the sink, you might say.

Q. You don't know exactly.

A. I made no more detailed study of the use of heating oils by domestic consumers in Denver, any more than I have given in that statement of mine.

Q. Which is very very general?

A. That is a general statement.

Q. Now I want to direct your attention to your exhibit No. 36-S, and also you can look at the same time on Page 30 of your testimony. I note that you have testified that in regard to the increased use—on Page 30—the ratio of gas consumption:

"The sharp drop in this ratio occurring in 1928 and 1929 was due to the reduction in rates paid for natural gas below those paid in prior years for manufactured gas."

A. Yes.

Q. Is that correct?

A. Yes, sir.

Q. And I note here on your Chart 36-S that there has been a constant, almost a constant increase in the use of gas for househeating purposes here in Denver?

A. That's correct.

Q. I notice at the same time there has been a drop in the average rates for househeating purposes?

A. Yes, that's correct.

Q. Is that because of the block rate, that block rate, is it?

A. Promotional block rates, yes.

Q. Don't you think that if the rate in Denver were reduced that there would be an increase in the use of gas in Denver by all types of consumers?

A. No, sir.

Q. Why?

A. Because a change downwards in the rate wouldn't increase the use of gas for cooking.

Q. How about for other purposes? I never said anything about cooking.

A. Yes, you did. You said for all purposes. If I'm wrong the reporter—

Q. You are speaking of cooking first.

A. I see—cooking, there would be no increase in sales.

Q. Why?

A. It takes just so much gas.

Mr. Dougherty: May I request, Mr. March, if you just sort of hold on before you finish so that the reporter can get it.

Mr. March: Yes.

The Witness: It takes just so many heat units of gas to do a given cooking operation. That number of heat units will be used whether the price of gas be one figure or another figure, assuming at all times that the price of gas is within its value. In other words, if the price of gas now was so high that nobody would use it, or that very few people would use it, its consumption would be increased by making it cost less, is that clear? If I haven't we will repeat it.

By Mr. March:

Q. Frankly it isn't but I'll ask you a few more questions.

In other words, a person has got to do so much cooking anyway, is that right?

A. That's right.

Q. And a certain number of householders that have gas installed for cooking purposes—

A. They do.

Q. And they have got to eat three meals a day; so therefore they are going to use gas regardless if they have got it installed.

A. Assuming that it is now at a price within the value of it.

Q. They would use just about as much as before?

A. Just as much as before.

Q. Yes, but what about these other people who haven't got so much money would they come in and install gas for cooking purposes?

A. The saturation in Denver here now is such that I doubt that you would gain anything.

Q. In other words, the market for cooking purposes in Denver is completely gas—

A. Substantially so.

Q. Substantially so? They have all that tied up?

A. They seem to have been successful in selling it.

Q. Now that situation exists in no other form of service in Denver, isn't that true?

A. I would say it existed in no other form of gas service.

Q. Yes, gas service. Now let's get on. There is cooking

A. Cooking.

Q. All right, let's get on to your other gas service.

A. Shall we say water heating?

Q. That's very good.

A. I would say that water heating is sensitive to changes in the rate.

Q. In other words, there would be more water heating if you had a lower rate?

A. If the water heating rate were lower I think that there would be more gas used for water heating because the character of water heating service would be changed:

that is, I think there would be more automatic water heaters.

The Trial Examiner: Mr. March, I wonder if you aren't spending considerable time here on something that we really couldn't give a great deal of consideration to in this proceeding.

Mr. March: He puts this exhibit in evidence here. He has come up here as a witness testifying to the various things about the competitive factors here in this gas service. Now, if he doesn't know anything about it, all right. He says he does. I want to know what the real situation is.

The Trial Examiner: You are entirely at liberty to pursue Mr. Hill as to the competitive situation.

Mr. March: That's what I'm dealing with.

The Trial Examiner: But from your questioning I gather that you are attempting to have Mr. Hill state that if the gas rate were reduced that the consumption would therefore increase.

Mr. March: And also it might have a very definite bearing, if the Examiner wants to know what I am driving at, upon this competition with coal. If they reduce the gas rates right here in Denver now and coal is their principal competitor, there will be some question there as to how serious coal will compete then. If they compete seriously now and if these rates are reduced and brought down to what they ought to be, why then there might not be any competition there at all. The gas might have all the business. I want to follow through this competitive proposition. I didn't mean to get to my point that quick.

The Trial Examiner: Mr. March, the witness is testifying to the present situation as I understand it.

Mr. March: This exhibit covers from 1923 through to 1938 and none of it pertains as I understand it to 1940. I haven't seen a schedule in here yet dated 1940.

The Trial Examiner: That's what I mean. His testimony is dealing with the existing competitive situation.

Mr. March: That's what I'm dealing with.

The Trial Examiner: Well, I don't understand your questioning.

Mr. March: I'd like to be permitted to continue.

The Trial Examiner: Go ahead.

Mr. Lange: There is just this point, Mr. Examiner, probably that you may have in mind. We want to pursue this questioning in this respect also: There are a great many assumptions in this exhibit that aren't reflected in actualities. The witness himself stated that they are assumptions and haven't been reduced, or that aren't reflected into actualities existing on this system, particularly not in Denver, and we want to follow through on that and let this record reflect what is actually existing.

Mr. Dougherty: May I just say I don't agree with that so that no one will say I sat quiet when I should have spoken.

Mr. Lange: Well, just say with reference to kerosene. The witness definitely said that that is purely an assumption that the amount used is negligible. Still he sets it up as one of the basic uses or competitive fuels that would probably get into the picture and now I emphasize "probable" because he himself said that it would be within 98 per cent of probability.

The Trial Examiner: I think that it is entirely proper for the Commission's counsel to cross examine with respect to those matters. I am not endeavoring to shut off cross examination. However, it occurred to me that the Commission's counsel was spending some time on a matter that isn't particularly important.

You may proceed, Mr. March.

Mr. March: All right.

Q. You say that if the rates in Denver were reduced, the gas rates for water heating—

A. Water heating.

Q. —there would be an increase in the use of gas for water heating.

A. That's my opinion.

Q. Of course there would be a corresponding increase in the sale of gas here in Denver.

A. That's correct.

Q. All right now, let's go to the next type of domestic service.

A. House heating?

Q. House heating.

A. That is, a volume of natural gas sold for house heating—

Q. Yes.

A. —depends entirely upon the ratio between the cost of gas and the cost of the next competitive fuel.

Q. Coal.

A. Yes.

Q. So if the rates were reduced for house heating purposes, gas rates, there would be an increased use of gas for house heating purposes?

A. Yes.

Q. Let's go to the next type of service?

A. Refrigeration.

Q. Yes.

A. I think that comes in the same category as cooking for domestic purposes.

Q. Why?

A. Because the use is so small and the cost of refrigeration, such a large part of the cost of refrigeration, lies in the carrying charges on the equipment. The amount of gas used isn't great. I don't think that a user of refrigeration for domestic purposes will be swayed toward or away from the purchase of an electric refrigerator by change in the price of gas for refrigeration.

Q. You don't know though?

A. That's my experience as a natural gas engineer, experienced in those matters.

Q. How much gas—do you know approximately the ratio between the use of gas and electricity for refrigeration purposes in Denver?

A. The number of gas refrigerators as against electric refrigerators, no I don't.

Q. You do know that electricity is the only competitor there of course?

A. Except natural ice.

Q. Yes. You don't know what the situation is here in Denver. How can you testify what will be the reaction.

A. I know what the situation is generally in the industry.

Q. The people use gas because they like gas for refrigeration and people use electricity because they like electricity for refrigeration.

A. Yes, and the price doesn't make much difference. It is more a question of salesmanship.

Q. It makes some difference, doesn't it?

A. I don't think it does, frankly. I am trying to answer, frankly and that is the best answer I know.

Q. What percentage of the gas sold by—sold in Denver is used for refrigeration purposes?

A. I don't know.

Q. Probably very negligible compared to the whole load, wouldn't you say?

A. Very negligible.

Q. What would you say in regard to cooking?

A. I'd say it was a minor part of the whole load, not a negligible part of it, however.

Q. All right, let's go to the next type of service.

A. Such as?

Q. Domestic service. Is there any more?

A. I don't know of any more.

Q. All right, we'll go to commercial service, then.

A. Generally speaking, a reduction in the price of gas will have a stimulating effect on commercial sales unless they are already saturated.

Q. And they aren't already saturated here in Denver?

A. I don't know.

Q. You don't know anything about the commercial situation?

A. I know the domestic situation only.

Q. There would be an increase there?

A. There should be.

Q. What about small industrial consumers?

A. The small industrial—well, I'd say that if he isn't now using gas and the rates were reduced to a point where they would be competitive with coal, assuming they weren't now competitive, the use of industrial gas by small users should increase.

Q. How about large industrial consumers?

A. The same holds true as to large industrial consumers.

Q. Do you know about what percentage of the load in Denver is commercial, small industrial and large industrial?

A. No, I do not.

Q. You know it is very large, though, don't you?

A. I know the amount of industrial gas sold in Denver is considerable.

Q. And you wouldn't want to make a statement here in the record that in your opinion that if rates were reduced for all types of service here in Denver there wouldn't be more gas used than there is now?

A. In the aggregate?

Q. Yes.

A. I would say that if the rates were reduced there should be more gas sold in the aggregate.

Q. It would be tremendous?

A. I couldn't say there will. It all depends on the extent of reduction and the present competitive situation.

Q. Yes. Do you know anything about what capacity the Colorado Interstate system is operating now?

A. Yes, sir—this day?

Q. This day.

A. How much gas is going through?

Q. What percent of the capacity is being utilized?

A. This day I couldn't say.

Q. Could you take care of this increase here in Denver?

A. At present?

Q. Yes.

A. I am not operating the Colorado Interstate Gas Company. I would say that any substantial increase in the load in Denver would have to be taken care of either by shutting off industrial consumers or by adding facilities to the system.

Q. In other words, this market has reached—is all that you can handle as it stands now?

A. The total volume on peak days is approaching that point and may well exceed it this winter. They exceeded it last winter for one day as I understood from Mr. Hendee's testimony.

Q. You heard Mr. Hendee's testimony?

A. Yes.

Q. Do you agree with his testimony on that point?

A. I think his testimony in that regard wasn't quite accurate. He said the capacity of the system was 126,000,000. That contemplates for this year after certain additions are made.

Q. You are going to make additions?

A. Additions to the stations are now being made as I understand.

Q. What is the capacity now?

A. Well, before the stations had been increased, about 107,000,000 feet.

Q. What effect do you think this national defense situation is going to have on your load?

A. Here?

Q. And all up and down your line.

A. I have made no study of that. I don't know to what extent the Colorado fuel business would increase on that account nor to what extent business here in Denver will increase on that account.

Q. Now, let's go to our electricity situation.

Who sells electricity in Denver, Colorado, do you know?

A. Public Service Company of Colorado.

Q. Is that the same outfit that sells the gas in Denver?

A. Same corporation, I understand, yes.

Q. You know it, don't you?

A. I do.

Q. Well, do you think that company is going to compete with itself?

A. I have nothing to do with the management of that company.

Q. Well, as an engineer would you think that it makes much difference one way or the other whether people use electricity or gas to the Public Service Company of Colorado?

A. Well, I don't know what difference it would make economically; that is, I have never made any studies. They sell both. I think their cooking business here in Denver is largely gas.

Q. Do you know why that is?

A. Well, it's cheaper. Gas is cheaper than electricity. I think it is better.

Q. Well, there can't be very much competition between gas and electricity in Denver in view of the fact that one outfit has got the exclusive right to sell both, can there, only as a commodity?

A. Well, I wouldn't expect to find much competition between the sale of energy for domestic cooking in Denver unless the—unless the one company selling both services had decided on that policy.

Q. When you brought your gas into Denver here and your contract to construct the line, did you have any part in negotiation of the contracts of Public Service of Colorado?

A. Not the original contracts.

Q. Who did have?

A. I don't know. I say I do know. Mr. Christy Payne, I think had a prominent part in the negotiations.

Q. Of Standard Oil Company (N. J.)?

A. Of Standard Oil. I would say that Mr. Joe Creveling undoubtedly had an interest in them and whoever is the head of the Public Service of Colorado here. I've seen the contract, the signature is on it. I didn't participate in the original negotiations but did in certain subsequent ones.

Q. Now I direct your attention to Exhibit 36-G. I note from an examination of that exhibit, Table 7, as far as I can see there has been a consistent increase in the total sales of gas in Denver from 1929 to 1939, with the exception of one year which was 1938, is that correct?

A. That's correct. While these sales are totals, I think that Denver followed the trend. I'm not sure but I think it is a fair assumption that it did.

Q. You don't know whether it followed the trend or not?

A. I think—well, I couldn't swear that it did, but I'm sure that it did.

Q. I note here, though, that the increase from 1938 to 1939 was rather large. Do you know what accounted for that?

A. We had a fall-off industrial activity in 1938, apparently.

Q. That's what knocked that load down?

A. Yes, it looks like it.

Q. You don't know, though?

A. I would say the sale—I would say because the sale for all other purposes accounted for the difference.

Q. Now I notice here you go over to your coal production in Colorado, tons, that column. As I see there there has been a consistent decrease in the amount of coal production in Colorado during this same period.

A. Well, I wouldn't quite hardly say that because in the middle of the period there you will notice some increases but—

Q. It slipped back, though, didn't it?

A. It then did, yes. It has, of course, shown a substantial decrease from 1929 and 1930 to the present.

Q. Yes, about four million, wasn't it?

A. Almost, production in Colorado, yes.

Q. About ten million tons down to about six million tons in 1939. How do you account for that?

A. Increase in competition of other fuels and more efficient uses of all fuels.

Q. In other words, gas was taking the market away from them?

A. Gas was one of the contributing causes without question.

Q. Let's see, did you state in the record the method that you used in computing the tables here?

A. Just take the total therms, the total Btu's. and—the total Btu's. in gas and divide it by the Btu's. in a ton of coal and you will get the resulting displacement of coal. Divide that displacement by the coal production and you will get a percentage.

Q. I think you stated where you get this information from here.

A. I got the sales of gas from the Colorado Interstate Gas Company from Mr. Drèw. The coal production is shown how I got that in another exhibit. The rest of it is just arithmetic.

Q. What's that other exhibit? I don't think you stated.

A. Exhibit 36-A.

Q. Natural gas—according to your schedule here, it has been able to hold up pretty well against this coal competition, hasn't it?

A. Yes, it has done pretty well.

Q. In fact, it has got the better of the deal according to these figures, didn't it?

A. Just what do you mean by that?

Q. I mean that there has been a constant increase in gas consumption and constant decrease in coal consumption?

A. Yes, sir.

Q. Is there anything to indicate to you that that ratio won't be maintained?

A. Yes.

Q. What's that?

A. The capacity of the whole Interstate system.

Q. In other words, you come right back to the proposition that you are practically operating to capacity now.

A. I say we are operating at peak capacity; that is, on peak days. Of course on non-peak days there is still room for substantial volume of additional business by way of leveling out the total factor and increasing the load sales without increasing the peak-day requirement.

Q. You couldn't take care of a 12-months period, any additional load?

A. We would have to be privileged to shut off this additional business on peak days or else increase the facilities required to bring that much additional gas to Denver on a peak day.

Q. I don't know whether I asked you yesterday or not, but why is it that Colorado Interstate Gas Company hasn't attempted to sell more residential, small residential service all up and down this line, the small towns?

A. You said we hadn't attempted to?

Q. Have you attempted to do it?

A. We don't control the sale of gas at any of these small towns up and down the line.

Q. The Public Service Company of Colorado controls them?

A. Controls Pueblo.

Mr. Dougherty: Right there, Mr. Hill—

The Witness: That is, Pueblo Gas & Fuel. It's another subsidiary of the City Service Organization.

Mr. Dougherty: Also, Mr. Hill, I want to call your attention in connection with your statement that the basis of 36-G was 36-A. Mr. March mentioned it was 36-B. 36-B has the year 1939 and the full year 1938 which is not true of 36-A, so Mr. March was correct.

The Witness: I stand corrected.

By Mr. March:

Q. Now, let's take up this coke situation. All you know about coke production is what you have read from publications?

A. No, I used to be around Pueblo a lot when we were putting gas in and I know that quite a bit of domestic coke is sold there which is made by the Colorado Fuel & Iron in their ovens and sold for domestic use.

Q. Why don't they use coke themselves if it is so cheap?

A. For what?

Q. For their own use.

A. They can't use it for open hearth purposes.

Q. They have to use electricity and gas or what?

A. For open hearth purposes you've got to use some *some* form of gaseous or liquid fuel and a very great part of the gas sold to the Colorado Fuel & Iron is used for melting steel in the open hearth furnaces. The balance is used for miscellaneous operations such as soaking pit operations and some is used for boiler fuel. Now the amount of coke produced down there that is sold is simply a product of their own operations, which was largely sold in those days to company employees. Now what the situation is now I couldn't say. As to whether its use has increased or not as far as company employees is concerned or others, other than what is shown in this table, I couldn't say.

Q. Does coke compete very much with gas in the Denver market?

A. No.

Q. What market does it compete in?

A. Pueblo.

Q. What is the extent of that competition in Pueblo?

A. I haven't reduced it to gas equivalent, but it is—at least I know in the early stages of the company's life it was confined largely to employees of the Colorado Fuel & Iron. I don't consider it a serious competitor at all.

Q. Have you made a study of that situation up in Cheyenne?

A. No, sir.

Q. In regard to any type of fuel competition?

A. No, sir.

Q. Now I notice you have annual oil production in

thousands of barrels, 1925 to 1938, on Page 11 of your testimony. That oil production is comparatively small, isn't it, in the state of Colorado?

A. Small in Colorado.

Q. In fact, it is very small, isn't it?

A. Yes, sir.

Q. Do you know how high Colorado ranks?

A. Oh, it's very small.

Q. Negligible?

A. Yes, sir.

Q. Where would the chief fuel oil—most of the fuel oil be produced that competed, or crude oil which competed with gas in the Denver market?

A. Wyoming and Kansas, principally Wyoming.

Q. Wyoming—you don't know whether it competes up there in Cheyenne very seriously or not, do you?

A. Well, let me see if there is a refinery in Cheyenne listed here. If not, I would say not as much as in Denver.

Q. You don't know, though?

A. I will try to answer. No, I would say that the competition of Cheyenne in oil shouldn't be as great as in Denver because there is no refinery there. It isn't listed anyway.

Q. Would you say Wyoming had very much oil production?

A. Yes, sir.

Q. How does it rank among the states of the Union?

A. I don't know.

Q. Do you know who owns most of the oil leases up there in Wyoming?

A. No, sir.

Q. What company?

A. No, sir.

Q. What part of Kansas would oil competition come from?

A. Northern and Western fields in Kansas.

Q. Do you know who owns most of those oil leases in that portion of Kansas, what company?

A. I know The National Refining Company owns quite a bit. There are other companies, the Continental is represented in there; the Phillips Petroleum—

Q. Texas?

A. City Service.

Q. All of these companies which control Colorado Interstate Gas Company and Canadian River Gas Company?

A. No, no, no, no. Standard Oil of New Jersey isn't represented in the state of Kansas except they had representation there with the Carter Oil Company, which is a producing subsidiary. Sinclair, I believe would have.

Q. They have some, Sinclair?

A. Sinclair would have some.

Q. Texas?

A. Texas hasn't got anything to do with this setup here—Texas Corporation?

Q. I just asked you about the Texas Corporation.

A. Oh, they are in there, sure.

Q. City Service?

A. I would expect so.

Q. How's that?

A. I would expect they would have a foot-hold in those fields.

Q. Do you know how much crude oil is shipped to the Denver markets from those fields, fuel oil?

A. No, I don't.

Q. Do you know whether it is small or large?

A. I would think it would be almost negligible now that the pipe line from the Lance Creek field was built into Denver.

Q. Who built that pipe line?

A. The Rocky Mountain Pipeline Company.

Q. Who controls that company?

A. I don't know.

Q. What is the capacity of that line?

A. 6-inch line.

Q. It comes into Denver?

A. It comes into Denver.

Q. Do you know—

A. The capacity depends on the pressure. I'd say that perhaps 15,000 barrels a day.

Q. Do you know at what capacity it operates at?

A. No.

Q. Do you know what they charge for their oil wholesale on that line, gate rate?

A. No. I wouldn't know. I didn't know there was a gate rate.

Q. Wholesale rate, I mean.

A. The tariff on the transportation from Lance Creek to Denver I don't know. You mean the tariff on the transportation from Lance Creek to Denver?

Q. You state here on Page 33 of your testimony—

The Trial Examiner: May I interrupt you just a moment before you get off 36?

Mr. Hill, you do not mean to infer that the total amount of crude petroleum production shown on Exhibit 36-D is converted into competitive fuel oil, do you?

The Witness: No. The figures given on the left-hand side of the tabulation are simply production of crude petroleum in thousands of barrels.

The Trial Examiner: You don't mean to infer from that that the total production shown is converted to fuel oil for competitive purposes?

The Witness: Oh, no, of course not. That is, only a portion of that would be reduced to fuel oil.

The Trial Examiner: Proceed.

By Mr. March:

Q. How much is produced?

A. Depending upon the process.

Q. You don't know?

A. Well, of course no one knows the total.

Q. Now, on page 13 I want to ask you about that schedule there. You said those figures were reasonably accurate. What do you mean "reasonably accurate"?

A. What page did you give me?

Q. 13. The table on page 13, estimated proven crude oil reserves in Colorado and adjacent states, data from American Petroleum Institute.

A. Well, those of course are estimates.

Q. That is, the sense in which you submit that to be reasonably accurate?

A. Where did I use that? I don't see that in my testimony. I may have interjected it.

Q. I put it on my paper here when you interjected it as I recall it.

A. I don't recall it, but I'd say they are estimates and of course subject to errors that all estimates are subject to.

Q. On Page 18 I want to direct your attention to your testimony. I believe you testified that that estimate there was based upon a letter which you received from Mr. Morgan?

A. Yes, sir.

Q. I wonder if you would produce that letter for the record in order to make the record complete?

A. Yes. It is in our files in New York. I'd be glad to get it for you. Will a photostatic copy be all right?

Q. A photostatic copy will be just fine.

Oh, yes, you said on page 19 there is also a natural gas pipe line between Cheyenne and Denver supplying gas from the Colorado Interstate Gas Company's line to Cheyenne, Wyoming, and intermediate points. Is that the Colorado-Wyoming Gas Company line?

A. Colorado-Wyoming line, yes, sir.

Q. Do you know who controls the Colorado-Wyoming?

A. It is a City Service Interest. I don't know just what company controls it.

Q. Do you know if the Public Service Company of Colorado is a Cities Service interest too?

A. I so understand, yes.

Q. Do you know how much the Cities Service, what interest it has in the Interstate Natural Gas Company?

A. Fifteen per cent of the common stock; that is, the interests of the Public Service Company of Colorado.

Q. Yes.

A. I understand it to be fifteen per cent.

Q. Do you know how they vote that stock?

A. I don't know.

Q. How did they vote it when you were managing the properties?

A. I don't know.

Q. How's that?

A. I never had any occasion to find out.

Q. I think I used in asking that last question I used "Interstate Natural Gas Company." It is Colorado Interstate Gas Company.

A. Colorado Interstate Gas Company.

Q. Now I want to ask you, referring to your Exhibit No. 36-L, you see the line in red there. As I understand it they are oil pipe lines?

A. Yes, sir.

Q. Can you tell us what companies operate those oil pipe lines?

A. The line from the Southeastern part of Wyoming going on down to the Southeast is the old Sinclair Teapot Dome line. Just how that is being operated today I couldn't say. It has been operated at various times by Sinclair and I think it is so operated now.

The line coming down from Lance Creek into Denver as I understand it is owned and operated by the Rocky Mountain Pipeline Company.

(Vol. III, pp. 411-463.)

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Q. Do you know anything about the price structure of coal, market prices of coal?

A. What I have shown in my exhibit.

Q. Do you know anything about the law affecting the price of coal?

A. No.

Q. Do you know there is a law recently passed which is going to fix a minimum price for coal?

A. I have heard there was.

Q. Do you think that is going to have some effect on your competition with coal?

A. If the effect of the law tends to increase the retail delivered price of domestic coal in the City of Denver I think that the number of house heating customers using natural gas in the City of Denver will increase and along with that increase will go an increase in the amount of natural gas used for house heating.

Mr. Dougherty: That is assuming that the same gas price—

The Witness: No change in the gas price.

By Mr. March:

Q. But if the gas price goes down there will be considerably further increase in the use of gas?

A. Well, leave out the word "considerably." I don't know, I couldn't measure the intensity, the amount of gas.

Q. Very substantial?

A. If the change in the coal-gas price ratio is substantial the effect on the company's house heating load will also be substantial.

(Vol. IV, pp. 576-577.)

The witness Sands, from the reports filed by the City of Colorado Springs for its distribution system and by the distributing companies, Public Service and Pueblo Gas and Fuel with the Public Utilities Commission of Colorado, made the following summary of the increase in sales of natural gas by said distributors from 1927 to 1939. He also included a comparison for those years of the revenues received by the distributing companies. These increases are set forth in the following table: (Exhibit 296, p. 12).

	<u>"Mcf. Sold"</u>	<u>Millions Btu.</u>	<u>Revenue</u>
1927			
Denver District	3,252,107	1,066,691	\$2,373,335.35
Colorado Springs	117,402	44,613	186,170.93
Pueblo	118,510.6	39,583	172,233.07
Total 3 cities	3,488,019.6	1,150,887	\$2,731,739.35
1939			
Denver District	8,025,148	6,524,445	\$4,379,766.00
Colorado Springs	888,394	704,496	362,590.77
Pueblo	462,690	383,107	306,615.71
Total 3 cities	9,376,232	7,612,048	\$5,048,972.48
1939 times 1927	2.69	6.61	1.85

12. Preferential Service to Domestic Consumers Over Industrial Consumers.

The project parties in their first agreement of April 5, 1927, Exhibit 1 herein, provided that in all the contracts made to carry out the project,

"it is to be stipulated that the demands of domestic consumers upon the supply of natural gas are to be

preferred over service to industrial consumers and that the remainder may be prorated, after demands of domestic consumers, among commercial and industrial consumers, but that such domestic preference shall not be exercised so as to deprive the Colorado Fuel & Iron Company of the volume of gas needed to complete open hearth heats then in jeopardy and to keep its furnaces warm during extreme domestic demand upon the pipe line of the Colorado Company, or so as to deprive any other industrial consumer which requires a small proportion of its normal gas demand to prevent damage to its appliances." (Exhibit 1, p. 15).

The complaint herein, the City of Denver itself, in its ordinance of September 14, 1927 (Exhibit 25), recognized the same preference and stated that the Public Service Company of Colorado could charge industrial consumers rates,

"lower and different from those charged for domestic purposes and the Company shall have the right to contract with industrial users for the sale of such natural gas, provided that all such contracts contain a 'cut-off' clause which recognizes the preferred right of the domestic users over the industrial users." (Exhibit 25, p. 5).

The City of Pueblo, in Section 8 of its ordinance of February 20, 1928 (Exhibit 39, p. 4), also recognized this preference in language almost identical with the Denver Ordinance, as follows:

"It is further determined that the rates to be charged by said company for natural gas service to industrial users for heating, manufacturing and power purposes in the City of Pueblo may be lower and different from but not higher than those charged for domestic purposes and the company shall have the right to contract with industrial users for the sale of such natural gas, provided that all such contracts shall contain a 'cut-off' clause which recognizes the preferred right of the domestic users over the industrial users."

The City of Colorado Springs in Article Eighth of its contract of June 12, 1931 with respondent for the purchase of gas at the city gate for distribution through its municipally owned system (Exhibit 7-E) and in its rate schedules quoted

to its customers made the same distinction and preference. Article Eighth of that contract provides:

"It is mutually understood and agreed that the requirements of domestic consumers of the City shall be fully supplied from the natural gas delivered hereunder in preference to the City's power plant or plants and in preference to consumers purchasing natural gas for industrial or commercial purposes, and that Vendor can be required to supply natural gas to be used for industrial or commercial purposes only where the same is sold under contracts which have been first submitted and approved in writing by the Vendor and which expressly provide that the natural gas will be supplied thereunder only insofar as the same is necessary to meet the requirements of domestic consumers supplied by the Vendor * * *"

All of the other contracts of the respondent and of Canadian for the sale of gas contain a similar provision. These contracts of respondent, other than that with Colorado Springs just referred to, and cut-off provisions therein are as follows: Exhibit 7-I, contract with Public Service Company of Colorado dated January 3, 1928, Article Twelfth, p. 17; Exhibit 7-H, contract with Pueblo Gas and Fuel Company dated January 3, 1928, Article Tenth, p. 14; Exhibit 7-F, contract with Colorado-Wyoming Gas Company dated October 3, 1929, Article Seventh, p. 14; Exhibit 7-D, contract with Citizens Utilities dated May 1, 1937, Article Ninth, p. 15. Exhibit 9 contains the following contracts: American Crystal Sugar Company dated January 1, 1939, Article Seventh, p. 11; Atchison, Topeka & Santa Fe Railway Company dated November 23, 1929, Article Seventh, p. 10; Colorado Fuel & Iron Corporation dated February 19, 1937, para. 5, p. 4; Colorado Portland Cement dated October 22, 1930, Article XI, p. 11; United States of America dated August 2, 1929, Article Seventh, p. 9; and Veterans Administration Facility dated May 12, 1939, p. 8.

The respondent's customer, Colorado-Wyoming, has similar provisions in all of its contracts. (See Exhibits 102, 103 and 104.)

The witness, William R. Beardsley, who has been superintendent of the meter department of the respondent since

it began business in June, 1928, prepared from company records a statement of all total and partial interruptions of service and line breaks of both respondent and of the Canadian Company from the beginning of service in 1928 to December 31, 1940. His statement was admitted as Exhibit 290. This witness has had superintendence of the metering and measuring of all gas sold by respondent for industrial or commercial, and domestic use and has custody of all records showing such sales and of all records of interruptions to service of all kinds. (Vol. VII, pp. 942 to 954; Vol. XCVIII, pp. 15202 to 15213.)

In Exhibit 290 there is included all instances of line breaks or other casualty and of peak loads resulting in interruptions to or reductions or suspensions of service to industrial or commercial customers served by respondent directly or by distributing companies purchasing from respondent. As abstracted hereafter, there was no reduction or suspension of service to domestic consumers because the gas stored in the line, or as it is sometimes called, the "line pack", was sufficient to supply the domestic users after the industrial or commercial users were cut off or their supply reduced. In this connection reference is made to Rhodes' testimony (Vol. IX, p. 1226) and his Exhibit 66, p. 17, where he states:

"Furthermore, gas can be drawn from the line in excess of its true or continuous capacity through the skillful use of the storage capacity of the line. In long pipe lines a considerable amount of gas is stored in the line on account of the high pressure at which it operates. This stored gas under proper control may be used to supplement the flow capacity of the line to an extent of about 10 per cent for a single day."

And to the same point reference is made to Exhibit 145 of the Commission's witness Kenneth L. Smith, p. 2, where he states:

"According to information received from the Bureau of Engineering, the average line pack during the year 1939 was 55,362 Mcf., at a pressure base of 16.4 pounds per square inch absolute."

In Exhibit 290 the following "Statement of Reductions or Suspensions of Service to December 31, 1940" is set

forth. In each case each reduction or suspension is described as being a reduction in deliveries to industrial customers to conserve domestic gas and will not be repeated:

Customer	Date	Duration	Cause
Colorado-Wyoming Public Service of Colo. City of Colorado Springs	7/29/32	24 Hours	Washout on Main Line
Public Service of Colo. Colorado-Wyoming Public Service of Colo. Pueblo Gas & Fuel Co. City of Colorado Springs	7/26/34	21 Hours	Washout on Main Line
Atchison, T. & S. F. Co. Colorado Fuel & Iron Colorado Portland Cement	9/14/34	15 Hours	Washout on Main Line
Colorado-Wyoming Public Service of Colo.	5/30/35	22 Hours	Washout on Main Line
Colorado-Wyoming Public Service of Colo. City of Colorado Springs	7/21/35	15 Hours	Washout on Main Line
Atchison, T. & S. F. Co. Colorado Fuel & Iron Colorado Portland Cement	7/21/35	15 Hours	Washout on Main Line
Public Service of Colo.	2/ 5/37	7 Hours	Freeze-up on Main Line
Colorado-Wyoming Public Service of Colo.	6/ 1/37	33 Hours	Washouts on Canadian's Main Line
Colorado Portland Cement Veterans Administration Facility	6/ 2/37	66 Hours	Washouts on Canadian's Main Line
Colorado Fuel & Iron	6/ 2/37	36 Hours	Washouts on Canadian's Main Line
Colorado Portland Cement	6/ 2/37	50 Hours	Washouts on Canadian's Main Line
Colorado Portland Cement	2/ 9/39	24 Hours	High domestic peak load demand
Colorado Portland Cement	1/18/40	14 days*	High domestic peak load demand

*Deliveries to this plant reduced on 1/18/40. Plant then shut down for 14 days of its own accord to do necessary repair work.

Customer	Date	Duration	Cause
City of Colorado Springs	1/18/40	21 Hours	High domestic peak
City of Colorado Springs	1/25/40	8 Hours	load demand
Colorado Fuel & Iron	1/18/40	36 Hours	High domestic peak
Colorado Fuel & Iron	1/25/40	24 Hours	load demand
Colorado-Wyoming Public Service of Colo.	1/18/40	30 Hours	High domestic peak
Public Service of Colo.	1/25/40	8 Hours	load demand
Atchison, T. & S. F. Co.	1/19/40	5 Hours	High domestic peak
Veterans Administration Facility	1/19/40	5 Hours	load demand

Then follows a "Statement of Total Interruptions in Service to December 31, 1940" occurring at or near the town border in each case as follows:

Customer	Date	Duration	Cause
Public Service of Colo.	9/ 9/33	49 Hours	Washout on Main Line
City of Colorado Springs	5/30/35	9 Hours	Washout on Main Line
Colorado-Wyoming	2/ 5/37	6 Hours	Freeze-up on Main Line
Colorado-Wyoming	6/ 1/37 &	32 Hours	Washout on Canadian's Main Line
Atchison T. & S. F. Co.	6/ 2/37	49 Hours	Washout on Canadian's Main Line
Arkansas Valley Fowler	9/ 9/37	11 Hours	Washout on Arkansas Valley Lateral
Fort Lyon		8 Hours	
Las Animas		9 Hours	
Manzanola		11 Hours	
Ordway		12 Hours	
Sugar City		14 Hours	
Citizens Utilities La Junta	9/ 9/37	10 Hours	Washout on Arkansas Valley Lateral
Rocky Ford		10 Hours	
American Crystal Sugar	9/ 9/37	10 Hours	Washout on Arkansas Valley Lateral
Atchison T. & S. F. Co.	9/ 9/37	12 Hours	Washout on Arkansas Valley Lateral

Customer	Date	Duration	Cause
Veterans Administration..... Facility	9/ 9/37	13 Hours	Washout on Arkansas Valley Lateral
Colorado Fuel & Iron.....	11/13/38	4½ Hours	Pipe failure on lateral to C. F. & I.
Pueblo Gas & Fuel Co.....	11/13/38	4½ Hours	Pipe failure on lateral to Pueblo
Colorado Portland Cement..	7/30/40	36 Hours	Washout on Portland lateral

There is also set forth "Statement of Total Interruptions in Service to December 31, 1940" of Canadian as follows:

Customer	Date	Duration	Cause
Amarillo Oil Co. at..... Metering Station, Dalhart, Texas	6/ 3/32	6 to 7 Hours	Washout on Main Line
Amarillo Oil Co. at..... Metering Station, Texline, Texas	6/ 1/37	36 Hours	Washout on Main Line
Colorado Interstate	6/ 1/37	26 Hours	Washout on Main Line Near Clayton, N. M.
Colorado Interstate	6/ 2/37	12 Hours	Washout on Main Line Near Clayton, N. M.

There is also included for both Canadian and Colorado a complete record of line breaks.

Beardsley explained that because of gas stored in the line or the "line pack" the cutting off or cutting back of service to the industrial or commercial consumers always permitted service to the domestic users (Vol. XCVIII, p. 15208).

Interruptions on the Colorado-Wyoming line were as follows:

In July, 1932, all of the industrial customers were affected although domestic service was maintained by resorting to gas in storage in the line. This was caused by Jimmy Creek Washout. (Vol. XXVIII, p. 3876.)

In the fall of 1934, all industrials were cut off for eight hours. Later in 1934 all industrials cut off eighteen hours. (p. 3877).

In May, 1935, all industrials cut off for twenty-eight hours. (p. 3877).

In December, 1935, there was a five-hour cut-off of "certain customers, occasioned by a line of Colorado-Wyoming Gas Company being broken by a blast." (p. 3877).

On February 5, 1937, due to hydrate stoppage in Colorado Interstate's line, all main line industrials were off sixteen hours and resale industrials were off ten hours. (pp. 3877, 3878).

On February 9, 1937, due to break in Colorado-Wyoming's line from a blast, all main line industrials were off eight hours and resale industrials were off three hours. (p. 3878).

In the latter part of May and early part of June, 1937, due to a washout at Little Perico in Texas, all main line industrials were off for three and one-half days. Resale industrials were off three days. "Domestic service, however, was maintained." (p. 3878).

On January 18 and 19, 1940, all main line industrials discontinued and resale industrials were cut off January 18 to the extent of 705,000 cu. ft. and on January 19 to the extent of 164,000 cu. ft. (p. 3875).

On November 12, 1940; Colorado Portland Cement was cut off from 10:00 P. M. November 12, to 8:00 A. M. November 13, 1940 (p. 3875).

The witness then stated:

"That, I believe, brings the interruption record down to date with the exception of a few minor interruptions purely local in character, such as the particular supply line being torn out by road construction work or items of that kind. . . ."

"Q. Were there any interruptions at all in any domestic service since 1929?

"A. The only interruption which comes to my mind, and it is not a total interruption, is a slight reduction in pressure in certain parts of Cheyenne during the

January 1940 peak day. The town border pressure there with all industrials off and with even the high school building in Cheyenne off for heating purposes, there was a few customers affected at that time." (pp. 3878, 3879).

The witness, Hendee, now manager of respondent and also of Canadian, testified as to many of the instances in which industrial or commercial users had been cut off or their supply reduced during his term of management. (Vol. III, p. 310, et seq.) He stated that it was not always necessary to cut off the industrials but that the domestic load could be maintained by simply "cutting them back"; but if the domestic customers were in jeopardy, he would cut off the industrials. (pp. 318, 319, 320). The cut-off in January, 1940, was for a few hours at first and then had to be repeated in a couple of days. Colorado Portland Cement was using enough gas to keep their appliances warm. The Santa Fe Railroad was using a small amount for the same purpose and Colorado Fuel and Iron was cut back from about 25 million to 14 or 15 million cu. ft. (pp. 320, 322). He made it a practice during sudden cold spells to notify the respondent's direct sale industrial customers in advance if possible that they would be cut back or cut off. (pp. 330, 331). If the peak load situation gets worse in the winter months, he would have to cut off the industrials more frequently. (pp. 335, 336). When asked if they couldn't build more lines, he replied: "Yes, but it may be cheaper to cut off industrial gas than to add looping of lines and so forth." (p. 336). When there was a shortage of gas due to peak loads, he would request the distributing companies to whom respondent sold at the town or border gate, including Colorado-Wyoming, to cut off their industrials. He made his request of Colorado-Wyoming in that manner and that company handled the cut-offs along its line. (pp. 337, 338).

The witness Rhodes also testified as to the cutting off or the reduction in supply of gas to industrials to serve domestic customers. (Vol. XXXII, pp. 4439, 4440; Vol. VIII, pp. 1146, 1147).

A record of all the occasions on which such deliveries to industrial customers were either cut off or reduced, in order to continue service to the domestic users, was supplied to the Commission prior to the hearing according to Beardsley.

"Q. And previously at the request of some of the engineers of the Federal Power Commission, did you give them substantially what is on this sheet?

"A. Yes, sir, the information was originally prepared at the request of Mr. Wing of the Federal Power Commission." (Vol. XCVIII, p. 15207).

The Commission's witness Lester prepared Exhibit 251, "Report on the Review and Analysis of the Contracts, Rates and Billings of Colorado-Wyoming Gas Company" and similar Exhibits 261 and 262 for Canadian and Colorado Interstate respectively.

On being cross examined on his Exhibits 261 and 262 respectively, by counsel for Canadian and Colorado Interstate, his attention was called to page 9 of his statement with respect to Exhibit 262:

"... you make certain reference to certain curtailments of service and have stated that that has never taken place because of the shortage of gas supply in the field, but that there have been certain interruptions because of line breaks and some domestic peak loads.

"Now, so far as the industrial customer is concerned, to him the curtailment of his gas is substantially the same thing whether that is caused by a shortage of supply from break in the line or shortage of supply available to him because of increase in demands for domestic customers, would that not be so?

"The Witness: As far as he is concerned, that might or might not be so. What I am driving at is that one would be classed as act of God and another one would be your request due to high domestic peaks.

"Q. Well, when you have a break in the line and in order to keep up whatever your domestic load is at that time, then it becomes necessary to shut off or curtail the industries?

"A. Yes, that is necessary, too.

"Q. That is, whether the lack of capacity is due to increased demands of domestic customers or lack of capacity due to a break which lowers your normal capacity, the result is the same in either event to the industry?

"A. Yes, it could be the same.

"Q. He doesn't get his gas.

"A. I was referring rather to the cause." (Vol. C1, pp. 15645, 15646.)

Q. I see. Now turn to Page 10, will you please? You make reference there in the second paragraph; that is, the first full paragraph on the page, that the gas which is sold for resale to the Denver line has preference over that which goes to the Chicago line but that the gas sold to the Chicago line is at a higher price.

Now, as far as the Canadian River Gas Company is concerned, doesn't it get the same price for gas from the Colorado Interstate Gas Company that goes to Chicago as well as to Denver?

A. Since June the 1st, 1938, that is correct.

Q. Previously the statement you made was true; that is, before that date?

A. Before that date, but it is true that—well, as far as Canadian River goes, but as far as Colorado Interstate that is not so.

Q. Well, what Colorado Interstate does is sell gas to the Chicago line at a fixed price?

A. That is correct, and it is higher than the average price that is delivered to the two lines.

Mr. Lange: You mean higher than the average price delivered to what lines?

The Witness: To Chicago line than to the Denver line.

By Mr. Dougherty:

Q. Turn to Page 13-B, please. You make reference there at the top of the page to a provision whereby the Arkansas Valley Natural Gas Company was to maintain a certain pipe line that went through the Arkansas Valley. Is it your understanding that that contract has now been terminated?

A. That contract has been terminated but in my Exhibit 262 there are certain charges that result from this part of the contract and I have retained it for that purpose.

Q. Now, if you will turn to your group of schedules under Exhibit 262, Table R-4, Sheet 8, you show there the sales to

Natural Gas Pipeline Company of America and show the annual load factor as 73.66 per cent.

Can you tell me what figures you used to arrive at that percentage? The reason I asked, it is a different percentage than the company's records indicate and I am trying to find out where your difference was.

Mr. Lange: Mr. Lester, if it is going to take some considerable time, then I would suggest to the Examiner that we recess early and convene earlier.

The Trial Examiner: How long is it going to take?

The Witness: If I can lay my fingers on the computation, I can do it right away soon.

The Trial Examiner: I take it, Mr. Dougherty, you would like to complete with Mr. Lester now?

Mr. Dougherty: I would, yes, because I was planning on leaving this afternoon and thought I wouldn't come back.

That, however, is the last question I have. I was merely trying to get his figures. The peak day he used and what average day he used for the purpose of getting the annual load factor, is what I wanted.

The Witness: Well, the average day would have been a division of the total consumption by the number of days in the year and the other—that's what I'm looking for here is to find the peak day that—

Mr. Dougherty: I'll tell you what could be done. As I say, that's all the questions I had and that information can be put in the record even though I am not here, and if you will get the peak days that you used for each of the 1937, 1938 and 1939 years, the date and the quantity and just merely put that in the record, it will be satisfactory.

(Vol. CI, pp. 15646-15649.)

In the cross examination of this witness with respect to the analogous Exhibit 251, the matter of the preference of the domestic over the industrial consumers was also brought out by counsel for Colorado-Wyoming. Counsel moved to

strike pages 8 and 8-A of the witness' statement describing Exhibit 251, reading:

"There have been no interruptions in the Colorado-Wyoming Gas Company's domestic and industrial service at the same time, although domestic service on branch lines has at times been interrupted due to line failure. Industrial service has at times been totally interrupted or reduced so that domestic service could be maintained when washouts or other accidents have affected the pipe line of the Colorado Interstate Gas Company."

Then counsel inquired:

"Now the facts are, are they not, Mr. Lester, that there has been curtailment and shutoff of industrials to satisfy domestic peak demands when there has been no accidents or washouts of any kind, just simply because there wasn't enough gas in the line to satisfy both demands?"

"The Witness: The company did not so furnish me that information and they say it was not of record nor did they know the exact time or period when it did occur." (Vol. LXXXVI, p. 12909).

But on cross examination, when his attention was directed to letters from the company to the Commission dated February 25, 1941, in answer to the Commission's letter of February 24, 1941 (p. 12911) and letter of May 29, 1940, in answer to the Commission's letter of May 9, 1940 (p. 12912) and letter of December 11, 1939, in reply to the Commission's letter of October 19, 1939 (p. 12916), the witness acknowledged that such instances had been brought to the attention of the Commission. On request he read into the record the reply letter of October 19, in which it was stated:

"I also have in mind several occasions when the domestic peaks were so heavy that industrial plants were asked to reduce their takes during the period of the peak (from one to three hours) after which they were permitted to resume full load operations. No record of such instances has been kept and we are unable to furnish dates and amount of reduction on those occasions." (Vol. LXXXVI, p. 12916).

Further Testimony of the WITNESS LESTER in Connection
With the Foregoing Matters.

Cross-Examination.

By Mr. McCreery:

Q. Mr. Lester, what is the purpose of this exhibit?

A. It is to show the charges and rates that the company actually charges on its books.

Q. What does it show?

A. It shows what the charges have been.

Q. What conclusions did you undertake to present by this exhibit?

A. Set them forth for the information that they might contain for the Commission as to what the company has actually charged on the books and the rules and regulations surrounding the rates that it has used in setting up its billings to its respective customers and condensed them into a yearly basis.

Q. It is really your construction of what the operations have been, isn't it?

A. No, it is actually the construction.

Q. You mean that your statement here is other than your conclusion?

A. That is a statement of the things that have been billed and the quantities of gas sold as reported by the directors of the company.

Q. You arrive at certain conclusions, do you not, in this statement and this exhibit?

A. I possibly have arrived at certain conclusions.

Q. If you have, they are your own?

A. That is right.

Q. Now, will you tell me what your definition of load factor is?

A. Load factor is the variation of the average load from the maximum load over a period of time expressed generally in a percentage.

Q. Now, what period of time did you use?

A. One year's time.

Q. Now, in connection with the industrials you used the full period of a year irrespective of the portion of the year in which the industrials were actually utilizing gas, did you not?

A. Yes. The load factor of mine was for a year. Now, I didn't define my load factor as only using that period of a year deducting from the total year only that period of the year for which it had been used. If I had of, I would have got a load factor for perhaps 200 days or 300 days.

Now, we have load factors for months, weeks, days, years, five years, ten years—any period. The stated period of time of mine is a year.

Q. I just asked you what period you used.

A. I just wanted to protect from the question that you may lead to that you are talking of a load factor or perhaps of an output factor. You are perhaps talking of an output factor. I just wanted to keep that straight.

Q. Now, the answer is that you gave no consideration to actual days upon which industrials took gas but treated them as though they took it 365 years a year?

A. I followed the definition of the load factor of a year.

Q. That's what you did?

A. I used it for a year, yes.

Q. On that basis?

A. Yes. I wasn't building up an output factor. That's what I'm trying to keep you straight on, your load factor and your output factor.

Q. Now, you state on Page 8-A of your statement that "No records have been kept of occasions when domestic peaks were of sufficient magnitude so that industrial cases were necessarily reduced during the peak load periods." What do you mean by that statement?

A. Why, the company kept no records, only of the information that they had furnished me and which is a table in the exhibit and that is all that they said they had records and data on.

Q. Aren't you mistaken on that, Mr. Lester? All of the meter charts would show exactly what curtailments had been made to satisfy domestic requirements. While they don't have any book records of it, their metered charts would show that, would they not?

A. I believe this was taken directly from the information furnished to me from the company and a direct quotation from them.

Q. I asked you if that information isn't available from metered charts.

A. It may not be. The company informed me that it was not, said no data was kept of it.

Q. No data given?

A. I am sure that statement was taken directly from the company.

Q. These various communications that were made to the Federal Power Commission on that very subject—here is a letter of December 11, 1939, addressed to Mr. O'Connor, Federal Power Commission, in answer to a letter by him to the company of date October 20th, in which the writer, the Vice President and General Manager, says:

"I also have in mind several occasions when the domestic peaks were so heavy that industrial plants were asked to reduce their takes during the period of the peak (from one to three hours) after which they were permitted to resume full load operations."

Now, then, the next sentence is: "No record of such instances has been kept and we are unable to furnish dates and amount of reduction on those occasions."

Did you ask at that time or any other time to see the meter charts?

A. No, I assumed that one request for information would have the same effect as two. I didn't see that two requests would have any more benefit than one, and my quotation I used in there reflects directly—refers directly to that latter sentence that you read from the letter.

Mr. Lange: What is the date of that letter, Mr. McCreery?

Mr. McCreery: That is December 11, 1939, Mr. Lange.

Mr. Lange: Do you have that correspondence with you, Mr. Lester?

Mr. McCreery: His quotation refers to the same letter that talks about industrials to take care of domestic peak demands.

The Witness: I have that.

Mr. Lange: In order to make the record complete, Mr. McCreery, you might read that whole letter into the record.

Mr. McCreery: It will be quite all right; but I am not interested in it at this particular time. I have got some more. I have no objection to it, but I am interested in this witness' statement on Pages 8 and 8-A:

"There have been no interruptions in the Colorado-Wyoming Gas Company's domestic and industrial service at the same time, although domestic service on branch lines has at times been interrupted due to line failure. Industrial service has at times been totally interrupted or reduced so that domestic service could be maintained when washouts or other accidents have affected the pipe line of the Colorado Interstate Gas Company."

Now the facts are, are they not, Mr. Lester, that there has been curtailment and shutoff of industrials to satisfy domestic peak demands when there has been no accidents or washouts of any kind, just simply because there wasn't enough gas in the line to satisfy both demands?

The Witness: The company did not so furnish me that information and they say it was not of record nor did they know the exact time or period when it did occur.

By Mr. McCreery:

Q. In the very letter you are relying on they do state just what I read, do they not, where it says: "I have also in mind several occasions when the domestic peaks were so heavy that industrial plants were asked to reduce their takes during the period of the peak (from one to three hours) after which they were permitted to resume full-load operations."?

A. He said he had that generally in his mind but he couldn't put his finger on any point. Sometimes the memory isn't quite so good and you have to get down to the actual date in order to nail it.

Q. That is what we are undertaking to do right now, Mr. Lester.

A. So I based mine on the information furnished me by the company.

Q. Well, do you know as a matter of fact whether or not

there were such curtailments and cutoffs to satisfy peak demands of domestic consumers?

A. They didn't furnish it to me at that time.

Q. I asked you if it is a fact.

A. At the time that letter is written?

Q. Yes.

A. No, not to my knowledge, and no information was furnished me by the company, although it was definitely requested that it be furnished. I was relying on the company's information.

Q. The answer is in this letter that there were those shutoffs.

A. He couldn't place it. I don't know whether it is or whether it is not. He says, "Oh, yes, I can recall to mind," but he hadn't recalled it to mind when it was.

Q. Are you familiar with similar correspondence between the company and the regional director in the year 1940?

A. I think I have seen that correspondence. Now, definitely I don't know whether I am thinking of the same correspondence that you are talking about there because I haven't the correspondence you are referring to before me.

Q. I will identify it very shortly. Your exhibit is dated October 1940?

A. Yes.

Q. Did you ever read a letter of date February 25, 1941, for instance, in answer to a letter of date February 24th, 1941 in relation to shutoffs to supply domestic peaks during certain portions of the year 1940?

A. When did the date of the shutoffs begin?

Q. These were late in 1940, subsequent to the date of your exhibit.

A. Yes, I have seen that.

Q. And that letter you recall indicated that on November 12 and 13, 1940, the Cement plant, to protect the Cheyenne load during severe cold, was curtailed and the plant ordered out on November 12th at 9:00 p. m., and service resumed at 8:00 a. m., November 13th and on December 12th to 14th, 1940, the Cement plant was curtailed during the period of December 12th, 13th and 14th; from the 12th from 5:00 p. m. to 10:30 p. m., curtailed 800 Mcf.; on December 13th from 10:00 a. m. to 6:00 p. m., curtailed 1500 Mcf., and that on December 14th, rather than suffer further curtail-

ments, they shut down completely at 6:40 a. m. of that day? Did you see that letter?

A. Yes.

Q. You didn't desire to embody it?

A. I was restricting it to the period of that time in my exhibit. If you want to bring that up to date and include that information, it's all right with me. Had I had it I would have included it.

Q. Now, did you also see a letter of May 29th, 1940 in answer to a letter of May 9th, 1940 in which the company stated:

"In our letter of December 11, 1939 addressed to Mr. J. V. O'Connor, we call attention in the last paragraph to the possibility that all industrial loads might have to be shut off during a peak winter day. On January 18th and 19th, 1940, that very thing took place. All industrial loads were ordered off at 9:30 a. m. on January 18th and distribution companies asked to take all steps possible to conserve the gas supply. Public Service Company reported the curtailment of industrial loads near Denver, and Cheyenne Light, Fuel & Power Company reported curtailments at Cheyenne.

"Curtailments to our industrial customers lasted about thirty hours and were estimated at 1270 Mcf.

"Public Service Company reported curtailments of 717 Mcf., and Cheyenne Light, Fuel & Power Company reported curtailments totaling 152 Mcf. at Cheyenne. Low pressure experienced on the Cheyenne distribution system was reported to have resulted in several low pressure complaints."

Did you see that letter at or about the time it was received by the Commission which was some months prior to your exhibit, the date of your exhibit and apparently a considerable time before you completed your statement?

A. No, I didn't see it before that time, no.

Q. When did you put these typewritten sheets into your written statement?

A. I put them in sometime in October 1940.

Q. 1940?

A. Yes.

Q. Well, this particular Page 8 I talked about is one of these typewritten sheets, so that in October it was available

at the *offset* of the Commission, the very thing that you say didn't exist so far as your Page 8 and Page 8-A is concerned.

A. I would like to have that letter before me.

Mr. Lange: That refers to 1940.

Mr. McCreery: That's right.

The Witness: I said I was speaking of the statistical part in there of your interruptions at the end of 1939. My statistical part of it doesn't carry anything beyond 1939 and wouldn't have any reference to 1940 because the statistical part wasn't in there.

By Mr. McCreery:

Q. Even though you prepared these sheets in 1940, you weren't dealing with the 1940 conditions or any other conditions than you state you had used originally, is that correct?

A. That is correct.

Q. So in the light of subsequent events which aren't present in your study, your statement at Pages 8 and 8-A would have to be considerably revised, would it not?

A. Well, now, it says here the Public Service Company reported the curtailment and the Cheyenne Light, Fuel & Power Company reported a curtailment of gas, but I just don't see about the Colorado-Wyoming curtailment here.

Q. This is a letter written by the Colorado-Wyoming Gas Company, is it not?

A. Yes.

Q. And is not the Public Service Company and the Cheyenne Light, Fuel & Gas Company, two companies, that were the local distribution companies of Colorado-Wyoming Gas?

A. Yes, it states here that there is possibility of industrial loads having to be shut off.

Q. Then read the next.

A. On January 18 the very thing took place. All industrial loads were ordered off on January 18.

Mr. Lange: What year?

The Witness: January 18, 1940.

By Mr. McCreery:

Q. So that in the light of those conditions your state-

ment on Page 8 and 8-A would have to be altered considerably?

A. Not for 1939. That speaks for 1939 and prior to that.

Q. You undertake to state there were no curtailments or shutoffs of industrial service in 1939 to supply peak load demands.

A. There was no record of it taken and the company has so stated it.

Q. Although they didn't state it was done in 1940?

A. In 1940?

Q. No, in 1939.

A. Oh, no. It says the very thing took place on January 18, 1940, not 1939.

Q. Then look at this letter of December 11, 1939. Read that one to see whether it has happened.

A. It says: "Replying to your request of October 19, we present the attached table which shows the major irregularities in our operation. This includes those instances where the cause originated on the Colorado Interstate Gas Company's system.

"I also have in mind several occasions when the domestic peaks were so heavy that industrial plants were asked to reduce their takes during the period of the peak (from one to three hours) after which they were permitted to resume full load operations. No record of such instances has been kept and we are unable to furnish dates and amount of reduction on those occasions.

"We believe we have a very good record for industrial service, having had to shut off our industrial load for a total of only seven days since starting operations. Half of that time occurred between 5/31 and 6/4/37, when the Interstate's line was washed out in several places by the flood in Little Perico Creek in Texas."

Mr. Lange: Read the last paragraph and we will have the whole thing.

The Witness: "In the past the Colorado Interstate Gas Company has been able to furnish us sufficient pressure to maintain excellent winter service to our industrial plants but as to the loads on their lines have been built up, it has been increasingly difficult to maintain high pressure at

Arapahoe. We find that winter storms now tax our system beyond its capacity and at such times industrial load must be reduced. We are told that we can expect no more than 125."

Mr. Lange: It is addressed to Mr. J. V. O'Connor, Federal Power Commission, Central Savings Bank Building, Denver, Colorado?

The Witness: Yes, sir.

Mr. Lange: It is signed by C. J. Shortess, Vice President and General Manager?

The Witness: Yes, sir.

Mr. Lange: And in order that the record may be complete, Mr. McCreery—

Mr. McCreery: Just a minute. I don't want this interruption. You can put that in later. I want to keep on this point here.

Q. When did you first see that letter?

A. I saw that letter at the time it was received.

Q. After you had seen that letter you wrote this Page 8 and 8-A?

A. Yes, sir, I stated there was no record. The company says: "No record of such instances has been kept," and I so state that no record has been kept.

Q. And you said also that there were no interruptions?

A. Yes.

Q. This letter says the opposite.

A. And I think I qualified the "no record of the interruption."

Q. So that is your conclusion?

A. Sure. It says "There was no recorded interruptions."

Q. I note you state on Page 6 that the Colorado Portland Cement Company—this is from your statement—"The Colorado Portland Cement Company is the main line industrial customer of the Colorado-Wyoming Gas Company farthest from the source of supply."

Was it your idea by that statement to imply that as compared with other industrials they paid too low a price?

A. I merely stated the bald fact that was true and they did—

Q. Isn't this also a very bald fact, that the consumption at the Colorado Portland Cement Company was about twice as great as the combined consumption of all of the industrial users put together?

A. It was considerably greater and that is shown in the report.

Q. That is a bald fact?

A. It is shown in the record and I am merely showing it as per Mcf., as I state. I couldn't state it was per Mcf. and then state it was per million feet of gas. I had to state Mcf.

Q. It was significant to state they were further and paid the lowest price but it wasn't significant to indicate the relative volumes?

A. That was shown in the exhibit itself.

Q. But it didn't justify any comment on your part as you have made here?

A. No, I didn't think about it.

Q. You didn't think about it?

A. No.

Q. What do you mean on Page 8 when you state: "The contractual priority of service rights of customers, of course, are dormant so long as there is available an adequate supply to meet the full requirements of all customers and adequate capacity in lines and equipment?"

A. I meant just what I said, that the company doesn't exercise any priority, any contractual priority as long as adequate service is available to everybody. It is dormant during that period of time.

Q. By that you mean the right is still there to be exercised but it isn't necessary, of course, when they have an adequate supply to exercise it, and they wouldn't exercise it?

A. I wasn't speaking of the right but whether the actual exercise was taken at that time.

Q. I thought perhaps that was what you meant. Now turn to Page 6 of your statement, turning to the top of your page in your second column. What do you mean by "Last block of domestic rate and space heating rate cents Mcf."? What do you mean by that?

A. Well, you have the first block of the rate through there at one price and the last block is at another price. I

placed them on a uniform pressure base rather than on a sales base.

Q. What do you mean by that last block?

A. Your break is in two blocks.

Q. I appreciate that.

A. And this refers to the second part of your rate. You have a two-part rate.

Q. Do they include all gas upon which the four cents is applicable, that is, the space heating gas, or do you know?

A. Yes, it is.

Q. It does?

A. It takes in that break afterwards.

Q. Is the average revenue based upon actual revenue received from purchasing company divided by the Mef. converted to the 14.65 pound pressure base?

A. Could I have a copy of my exhibit?

Mr. Lange: Here is a copy of it.

By Mr. McCreery:

Q. I am referring to Page 8, Mr. Lester.

A. The information came from—yes, that refers to the average of the domestic and space heating.

Q. My question was: "Is this the average revenue as you headed it based upon average revenue you received from purchasing companies divided by the Mef. converted to the 14.65 base?"

A. Yes.

Q. Your answer is yes?

A. Yes.

Q. I notice a quotation on Page 4 of your statement, being at about the middle of the page. It states: "To the full extent it may be able to do so." What is your source of that quotation?

Mr. Lange: On what page is that, Mr. McCreery?

Mr. McCreery: Page 4 of his statement, Mr. Lange.

The Witness: It comes from the contract.

By Mr. McCreery:

Q. Which contract?

A. I will have to look it up.

Q. Well, I guess that is not important.

A. I haven't all of my working sheets here.

Mr. McCreery: It isn't of sufficient importance so I will withdraw the question, Mr. Examiner.

The Trial Examiner: Very well.

Mr. Lange: He can furnish it at some time during the day when he has time to look it up.

Mr. McCreery: Just have it put into the record, Mr. Lange.

Mr. Lange: Very well.

By Mr. McCreery:

Q. What did you determine the load factor of this company to be for the year 1939?

A. I didn't so state what the load factor of the company was.

Q. It doesn't appear in this study?

A. It doesn't appear in this study, no.

Q. The load factor of the entire company was not material in your study?

A. It is not here in this study.

Q. In arriving at the load factor on these industrials you have gone on a yearly basis, 365 days a year?

A. I don't think there was any reference where it was on a yearly basis.

Q. In the case of customers whose meters were read weekly you simply averaged the weekly meter readings?

A. Yes, sir, I did.

Q. Did you ask to see the charts which would have shown that?

A. No, we requested that information. Having requested the information, the company furnished it to us and we asked for it to be on the same period. I don't see any reason why two requests are better than one.

Q. This doesn't have anything to do with what we were talking about a while ago?

A. That is true—

Q. You said the books and the records of the company were made accessible to you, did you?

A. Yes, certainly. The billing of the company was made accessible.

Q. I asked you if you examined their meter charts.

A. No, I didn't.

Q. All right, you have examined meter charts, haven't you?

A. Yes, sir.

Q. So that you would know they have them?

A. Yes, they have them.

Q. You know what those charts would show, don't you?

A. Yes.

Q. And you know you could have gotten the actual peak demands from those charts as indicated by the lines on the charts, do you not?

A. In certain meters that is correct.

Q. You certainly weren't expecting the company to go back and study all of those charts through for you? If you had wanted to know what those charts contained you could have gone there yourself, couldn't you?

A. No, when I was requesting certain information they probably had the information and had it already drawn out along those lines and kept track of the load factor, what their load factor was.

Q. You didn't get these load factors from the company?

A. I certainly got it from the information furnished by the company.

Q. At least these are the load factors you built in your exhibit?

A. Those factors are only a ratio of dividing figures and the underlying facts upon which the ratio was based were furnished by the company.

Q. But the figures you finally concluded were the load factors of your own compilation?

A. I made the division.

Q. On whatever formula you followed?

A. Yes.

Mr. McCreery: I think that is all.

Redirect Examination.

By Mr. Lange:

Q. Referring to the letter received by the Federal Power Commission from the Colorado-Wyoming Gas Company,

dated December 11, 1939, I will ask you to read the letter that was the basis of the letter received on December 11, 1939.

A. "Colorado Springs, Colorado, October, 19, 1939.

"Mr. C. J. Shortess, Vice President and General Manager, Colorado-Wyoming Gas Company, 407 Continental Oil Building, Denver, Colorado.

"Dear Mr. Shortess: Will you please supply a statement of total interruptions of service at each delivery point, giving in each instance:

- "1. Customer
- "2. Point of Delivery
- "3. Date
- "4. Duration
- "5. Cause

"Please supply also a statement of instances, other than the above, in which it has been necessary to reduce or suspend service to industrial customers, giving in each instance:

- "1. Customer
- "2. Whether reduction or suspension of service
- "3. Date
- "4. Duration
- "5. Cause

"Receipt of this information at an early date will be appreciated. Very truly yours, J. V. O'Connor (signed)."

Q. And in connection with the Colorado-Wyoming Gas Company's letter of December 11, 1939, particularly the statement where they say "We present the attached table," that attached table, Mr. Lester, is that the same as Table No. R-5 appearing in Exhibit No. 251, your exhibit?

A. Yes, it is.

Mr. Lange: I believe that is all, Mr. Examiner.

Mr. McCreery: That is all.

The Trial Examiner: You may step down, Mr. Lester.

(Witness excused.)

Mr. Lange: At this time we desire to offer Exhibit No. 251.

Mr. McCreery: I object to the exhibit for several reasons.

First it is immaterial and irrelevant to any issue in this case. It has no relationship to any determination involved in this case. It is obvious that the factual conclusions drawn in proportions of this statement are not in accordance with the facts as they existed and as they must have existed in the mind of this witness when he read certain things that were before him at the time of the compilation;

And so in that respect, referring particularly to the conclusions drawn by him in Pages 8 and 8-A, it is prejudicial because it distorts the actual facts as they existed and as this witness must have known they existed.

Mr. Lange: Mr. Examiner, this exhibit, as the witness stated, purports to cover the period through December 31, 1939 with the exception of changes in either billings—or, rather, changes in contracts or schedules filed by the company with the Federal Power Commission.

In all other respects the witness purports to cover the period down through December 31, 1939.

Mr. McCreery: I am referring now to what the witness had to have on December 11, 1939 when he got this chart that has just been talked about, that is, that portion of the letter, and that objection should not be addressed to the letter but in the form of a motion to strike the portion of Page 8 of the statement beginning with the last paragraph on that page and continuing over to the third line on Page 8-A.

The Trial Examiner: As far as your objection to Exhibit 251 is concerned, Mr. McCreery, I note in going through the exhibit there is information contained that might be quite helpful in the disposition of this proceeding, and in any event, the objections stated to the exhibit, if found to be valid and proper, may later be given consideration by the

Examiner, but at this point the Examiner is inclined to admit Exhibit No. 251 in evidence.

(Exhibit 251, Witness Lester, received in evidence.)

The Trial Examiner: Now, as to the written statement—

Mr. Lange: Mr. Examiner, that written statement also refers to the exhibit necessarily as it was read in connection with the Colorado-Wyoming Gas Company's letter to the Commission dated December 11, 1939. It is not only relevant but very definitely necessary to carry through the very statements contained in the company's letter.

Mr. McCreery: I am showing the Examiner the letter in question.

The Trial Examiner: I think in respect to this particular paragraph, Mr. Lange, the record is quite fully developed on these interruptions. As I recall it, there was considerable testimony prior to the testimony of Mr. Lester concerning that.

Mr. Lange: But, Mr. Examiner, the written statement, as well as Mr. Lester's exhibit, doesn't purport to go beyond December 31, 1939 and as of that time that was exactly what information the witness had upon definite requests made to the company. This is what the Commission's letter to the company states. It is very brief. It not only asks for interruptions generally or for cutoffs, but it distinguishes between the two and points out to the company that the Commission desires to have both as to causes as well as to all factors in connection with either a shutdown or a reduction.

The very definite questions were propounded and certainly in the light of that the witness could rely upon nothing better than what the company submitted. That would be the best evidence.

The Trial Examiner: This, however, is a mere conclusion and has nothing to do with the exhibit, the particular paragraph.

Mr. Lange: The exhibit incorporates those interruptions in service in Schedule R-5, Mr. Examiner. It refers very definitely to them. In fact, the letter from the company

was in response to the Commission's letter attached to it containing a list of those reductions or cutoffs and the items upon the basis of R-5 in the schedule.

The Trial Examiner: There is so much testimony in regard to the shutoffs that as far as the Examiner is concerned, the Examiner would prefer to rely upon the record rather than the statement of Mr. Lester's; therefore, the Examiner is going to entertain the motion of Mr. McCreery to strike that paragraph beginning at the bottom of Page 8 of this written statement and concluding on Page 8-A.

(Vol. LXXXVI, pp. 12904-12930.)

CLAUDE R. LESTER, called as a witness by and on behalf of the Federal Power Commission, being first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Lange:

Q. Please state your name.

A. Claude R. Lester.

Q. Where do you reside, Mr. Lester?

A. I reside at Portland, Oregon.

Q. What is your occupation or profession?

A. I have followed the rate game and regulatory.

Q. Regulatory matters?

A. Yes, regulatory matters. I am a professional engineer in the State of Oregon, registered to practice there as well as a qualified engineer.

Q. By whom are you presently employed?

A. By the Bonneville Power Administration.

Q. How long have you been so employed?

A. Since the middle of May last year.

Q. 1940?

A. 1940.

Q. Were you ever employed by the Federal Power Commission?

A. Yes, I was employed by the Federal Power Commission before going to Bonneville.

Q. How long were you so employed?

A. For over a year.

Q. Have you prepared a written statement setting forth your experience and qualifications?

A. I have.

Q. Please read that into the record.

A. "In 1914 I graduated from the University of Michigan with a Bachelor of Electrical Engineering degree. While at the University I took advance courses in accounting and a course in 'Utility Regulations' given by Dean Cooley, and Professors Riggs and Friday."

"After receiving my degree I entered the employment of the Grand Trunk Railway as an electrician. As an employee of this company I assisted in construction of electrical transmission and distribution lines, installation and maintenance of electrical equipment under the Motive Power Department at the electrically operated shops at Toronto and Montreal, Canada, and Battle Creek, Michigan, and the power plant and transmission line at Port Huron for the Sernia Tunnel. I had charge of the evaluation of all electrical lines and equipment under the Motive Power Department of the Western Division of the Grand Trunk Railway pursuant to orders of the Interstate Commerce Commission."

"In 1917 I enlisted in the U. S. Army, serving with the Fifth U. S. Engineers. In France I had charge of the operation of the electrical light plant for Seventh Division Headquarters and installation of other electric light plants in our Army area."

"In 1919 I entered the employment of the United States Emergency Fleet Corporation in Portland, Oregon, as valuation engineer. The work consisted of the evaluation of surplus shipbuilding material, stores, and equipment."

"In 1919 I was employed as engineer by the Southern Pacific Company, and later by the Oregon-Washington Railway and Navigation Company to assist in bringing up to date the Interstate Commerce Commission's valuation pursuant to I.C.C. Order No. 4."

"In 1920 I was employed by the Public Service Commission of Oregon, the name of which was later changed to Public Utilities Commission of Oregon. During the seventeen years in the State regulatory service I served as assistant engineer, engineer, auditor, principal engineer,

chief engineer, and director of engineers. At first I assisted in the investigation of the books and operations of public utilities, valuations, and rate analyses. As chief engineer and director of engineers I had charge of valuations of public utility property and auditing of the public utilities books. Also had charge of rate studies and preparation of factual evidence in formal proceedings before the Commission and charge of the studies of other problems confronting the engineering and auditing department of a state public utility regulatory body.

"In 1939 I entered the employment of the Federal Power Commission as associate rate investigator. Besides the rate analysis work in this case, I prepared rate analyses in a number of other natural gas matter for the Commission.

"In May 1940 I entered the employment of the Bonneville Power Administration at Portland, Oregon, as rate analyst. My work with the said Administration, at present, consists of analyses of various types of electric rates used by various private and public utilities and studies of additional use to which electric energy may be devoted.

"I am a registered engineer authorized to practice professional engineering in the State of Oregon, No. 1441."

Q. Mr. Lester, during the time that you were in the employ of the Federal Power Commission, what particular branch of the Commission's service were you connected with?

A. With the rate department of the Federal Power Commission and in rate work and rate investigation.

Q. While you were employed, did you have any assignment in connection with the preparation of the study of the rates of Colorado-Wyoming Gas Company in this proceeding? Also of related matters to rates?

A. I did.

Q. Did you prepare an exhibit in connection with that study?

A. I did.

Q. I will ask you whether this is the exhibit.

A. That is the exhibit.

Mr. Lange: Will the reporter please identify it?

The Trial Examiner: What is the title of it, Mr. Lange?

Mr. Lange: "Report on the Review and Analysis of the Contracts, Rates and Billings of the Colorado-Wyoming Gas Company."

The Trial Examiner: It will be marked for identification as Exhibit No. 251.

(Vol. LXXXVI, pp. 12877-12881.)

Subsequently the Witness testified as follows:

Q. Mr. Lester, at the noon recess Mr. Dougherty had requested figures that you were to furnish?

A. Yes, sir.

Q. Did you locate your working papers showing those items?

A. Yes, I did.

Q. You might give that information to us at this time.

A. The delivery to the Natural Gas Pipeline Company peak day in 1937 was February 27 and the amount was 68,270. In 1938 it was on November 5, the peak day delivery being 78,005.

Q. Mcf.?

A. Mcf. In 1939 the peak day was November 1 and the delivery was 79,653 Mcf.

Q. And what pressure? Was it on a uniform pressure base?

A. The uniform pressure base.

Q. At 14.65?

A. That is correct.

Mr. Lange: Do you have any further questions regarding this information, Mr. Brock?

Mr. Brock: No questions.

By Mr. Lange:

Q. Mr. Lester, returning to your Exhibits 261 and 262, I will ask you whether or not they contain tables showing interruptions in service, point of delivery, date, customer, duration, and cause?

A. There is a table in there showing that information.

Q. Now, then, these Exhibits 262 and 261 were pre-

pared by you and include matters pertaining to both of these companies down through December 31, 1939?

A. That is correct.

Q. Have you had occasion since the completion of these exhibits to study the history of all interruptions in service of both companies, particularly the information that was set forth in the company's exhibit 290, prepared by Mr. Beardsley?

A. Yes, I have reviewed that exhibit.

Q. Please refer to Exhibit 290 at this time and state what your opinions and conclusions are in connection with the interruptions in service of both companies.

A. There has been no further interruptions of the Canadian River Gas Company.

Q. Of the Canadian River Gas Company?

A. Of the Canadian River Gas Company during 1940.

Q. So those interruptions set forth in your Exhibit 261 are all that you have any knowledge of?

A. That is all I have any knowledge of and I commented upon those interruptions.

Q. All right, let us move to the Colorado Interstate Gas Company.

A. In reviewing the information in Exhibit 290, on Table 2 in that Exhibit is a statement of total interruptions in service to December 31, 1940.

Q. That is Table 2 pertaining to which company?

A. The Colorado Interstate Gas Company—I guess there is a mixup on the table numbers in the exhibit.

Q. Is the table the second to the last one in the exhibit?

A. Yes, the second to the last table in the exhibit.

Q. What statement did you have to make with reference to that table?

A. This is the total interruptions of the company and it shows the hours of duration, also indicates the cause for the total interruptions. The cause of the total interruptions in all cases was due to either pipe failure or washout. Washout, of course, is a cause of pipe failure. It is more or less due to the act of Nature.

The main line industrial total interruptions due to physical causes for the 13 years amounted to 111.5 or 1.7 hours per main line industrial customer.

Q. During the entire history of the company?

A. During the entire history of the company. There are also washouts for the Colorado-Wyoming Gas Company and to the city gate included in there. They amounted to 157.5 hours for the entire service of the company.

Q. In the course of the preparation of these two exhibits you have had all relevant data and records available to you for your inspection?

A. Yes, except the last year.

Q. Except the year 1940?

A. Yes, sir.

Q. Now, then, from your examination of the company's records, particularly those records pertaining to suspensions, interruptions, reduction or interruptions in service, did you find during the entire history of the companies that they lost any customers due to interruptions or suspensions of service?

A. No.

Q. If there had been such a customer loss for any one of those reasons, you would have learned of it in connection with your search of the records?

A. Yes, sir, prior to 1940. I haven't searched the record in 1940.

Q. In so far as 1940 is concerned, does this Exhibit 290, which sets forth reductions and suspensions in service, indicate that any of the customers shown ceased purchasing gas from the company?

A. Not for those causes, no. There is one that has—the Citizens Utilities Company took part of the operation over but they are delivering to all of the city gates and same delivery points during 1940. As to those companies whose interruptions are referred to there, they are still delivering to them.

Q. Borrowing Mr. Keffer's use of the homely illustration about "proof of the pudding is in the eating," would you say that the proof of the pudding with reference to whether these customers of the company are taking these suspensions, reductions, or interruptions in service, as a reason for not purchasing further supplies of gas is not in this picture?

A. No.

Q. In other words, there has been no loss of customers in so far as you know due to any one or all of those factors?

A. That is correct. There has been none. No loss.

Now turning over to the reduction in there, the reduction to the main line industrials amounts to 1.7 hours per year per main line customer.

Q. And you have heard—or, I'll ask you whether you did hear any of the testimony that was given by either one or more of the rate of return witnesses setting forth the fact that these interruptions or reductions in service were risks that the company had to face in its business?

A. I heard some of them testifying to that.

Q. Well, it didn't result in their loss of any customers so far as you know?

A. No, it did not result in the loss of any customers.

(Vol. CI, pp. 15652-15657.)

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very tightly bound.

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Sheet 6-121

COLORADO INTERSTATE GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

For Year 1959	Delivery Point	January	February	March	April	May	June	July
Direct Consumers								
American Crystal Sugar Company	Rocky Ford	2,437	2,986	2,821	1,217	752	425	248
Atchison, Topeka & Santa Fe Ry. Co.	La Junta	43,997	39,841	37,986	31,982	29,449	27,486	30,482
Colorado Portland Cement Company	Portland	141,950	115,542	142,745	137,200	137,348	137,957	156,800
Colorado Fuel & Iron Corporation	Pueblo							
Boiler Gas		291,781	327,907	305,686	299,096	257,443	222,568	197,435
Metallurgical Gas		270,713	391,870	378,638	372,366	342,453	275,157	242,686
Total Colorado Fuel & Iron Corporation		562,494	719,777	684,324	671,462	600,896	497,725	440,121
U. S. Department of the Interior	Thatcher	113	99	88	74	58	41	51
Veterans' Administration	Fort Lyon	26,242	27,120	21,970	22,360	13,673	12,825	8,195
Total Direct Consumers		777,436	984,175	886,906	882,295	788,176	676,457	641,877
Arkansas Valley Natural Gas Company	Various	8,674	8,786	6,941	4,938	3,878	1,975	1,754
Citizens Utilities Company	Various	17,635	17,635	16,298	12,809	8,535	6,572	5,807
City of Colorado Springs	Colorado Springs	86,189	82,251	72,349	58,190	54,065	46,491	60,347
Pueblo Gas & Fuel Company	Pueblo	47,975	51,514	39,169	38,251	28,176	30,561	25,961
Public Service Company of Colorado	Various	823,600	888,787	651,384	613,926	427,473	356,342	322,206
Sub-Total		964,085	1,045,613	766,161	787,254	581,317	441,941	411,075
Colorado-Wyoming Gas Company	Littleton	322,901	275,046	190,338	190,992	260,346	234,646	164,720
Total Denver Line		2,112,880	2,225,834	1,843,085	1,749,101	1,549,839	1,353,044	1,220,672
Natural Gas Pipeline Company of America	Gray	1,425,613	1,446,589	1,677,998	1,775,545	1,670,371	1,692,810	1,623,427
Grand Total		3,797,493	3,898,423	3,521,083	3,495,646	3,240,210	3,045,894	2,844,169

COLORADO INTERSTATE GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM FRIEDMAN BASE OF 11.65 LBS. PER SQUARE INCH)

2124 etc
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February	March	April	May	June	July	August	September	October	November	December	Total
2,926	2,021	1,217	792	425	248	122	143	129,235	128,076	5,766	332,998
39,041	37,906	31,922	29,449	27,486	30,422	30,343	30,034	36,991	44,342	46,294	427,169
115,542	112,745	137,222	137,348	137,957	156,800	167,519	138,151	110,786	130,657	129,356	1,676,091
327,907	305,406	299,034	257,443	222,568	197,435	200,512	242,475	296,871	373,999	348,081	3,360,920
391,870	378,620	372,344	342,453	275,157	242,486	226,422	215,011	332,872	382,381	320,851	3,296,899
719,777	684,026	671,378	600,896	497,725	440,921	427,934	457,486	629,743	756,380	668,932	7,257,519
99	88	74	58	41	31	30	35	30	57	67	743
27,130	21,970	20,349	13,673	12,223	8,195	9,927	10,090	16,617	21,138	23,361	212,066
944,175	886,906	822,233	788,176	676,437	641,877	635,145	625,881	977,409	1,147,270	963,779	9,906,446
8,706	6,961	4,938	3,070	1,975	1,734	2,048	2,309	4,671	7,233	8,658	61,877
17,485	16,298	12,809	8,535	6,572	5,807	6,158	6,467	8,126	12,932	15,491	133,645
22,251	72,349	58,150	51,043	46,491	60,347	50,801	43,608	66,708	93,407	91,607	885,981
51,514	39,169	38,231	28,176	30,561	23,961	27,779	29,874	36,157	47,929	49,922	450,648
822,707	631,384	613,926	427,473	356,342	322,206	322,808	343,133	475,926	676,812	726,422	6,637,119
1,048,613	766,161	727,234	521,317	441,941	411,075	438,734	425,471	991,948	857,113	832,100	8,028,490
273,046	190,338	190,992	260,346	231,666	161,720	173,123	201,068	232,773	324,778	275,749	2,024,762
2,225,234	1,243,025	1,740,101	1,549,899	1,353,014	1,220,672	1,249,142	1,315,420	1,827,732	2,291,161	2,131,628	20,879,698
1,646,329	1,677,928	1,735,345	1,670,371	1,622,310	1,423,427	1,735,732	1,922,674	1,729,913	1,734,610	1,734,574	20,347,632
3,892,423	3,921,023	3,495,446	3,220,210	3,015,054	2,644,169	3,012,880	2,838,074	3,617,645	4,025,771	3,865,622	41,247,330

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COLORADO INTERSTATE GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

For Year 1940	Delivery Point	January	February	March	April	May	June	July
Direct Consumers								
American Crystal Sugar Company	Rocky Ford	3,921	2,354	1,514	1,207	426	292	111
Atchison, Topeka & Santa Fe Ry. Co.	La Junta	51,022	42,121	34,413	33,325	32,409	29,701	27,672
Colorado Portland Cement Company	Portland	79,569	123,805	132,291	128,623	134,444	167,951	175,353
Colorado Fuel & Iron Corporation	Pueblo	439,573	354,207	335,047	231,105	241,540	311,444	179,007
Boiler Gas		427,576	348,453	319,270	247,691	257,160	296,335	151,142
Metallurgical Gas		857,149	702,660	654,317	478,794	498,700	607,779	330,149
Total Colorado Fuel & Iron Corporation								
U. S. Department of Interior	Thatcher	95	74	63	53	39	28	29
Veterans' Administration	Fort Lyon	20,254	22,022	19,923	20,835	14,070	9,874	6,591
Total Direct Consumers		1,090,008	933,836	843,323	642,637	479,928	815,365	520,005
Arkansas Valley Natural Gas Company	Various	12,007	8,792	7,509	1,760	1,116	474	179
Citizens Utilities Company	Various	23,690	27,540	16,391	15,608	12,601	9,836	8,071
City of Colorado Springs	Colorado Springs	99,707	83,644	22,133	72,007	65,150	58,958	50,510
Pueblo Gas & Fuel Company	Pueblo	67,444	34,538	42,600	42,449	35,000	30,996	24,694
Public Service Company of Colorado	Various	1,801,275	879,495	601,570	625,418	469,577	372,870	321,476
Sub-Total		1,804,123	1,045,409	830,333	754,042	503,524	473,134	412,930
Colorado-Wyoming Gas Company	Littleton	100,222	26,444	190,726	200,776	200,123	176,512	191,157
Total Denver Line		2,534,340	2,243,789	1,872,302	1,629,675	1,443,575	1,465,011	1,124,152
Natural Gas Pipeline Company of America	Gray	1,741,377	1,743,429	1,642,121	1,651,924	1,795,225	1,515,019	1,708,861
Grand Total		4,275,737	3,987,158	3,534,503	3,281,649	3,259,400	2,980,030	2,913,013

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COLORADO INTERSTATE GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

January	February	March	April	May	June	July	August	September	October	November	December	Total
3,921	2,354	1,516	1,207	486	892	111	111	131	110,004	207,640	96,589	424,242
51,022	42,121	54,413	53,325	32,409	29,781	27,872	27,626	27,427	31,592	39,466	43,744	420,778
79,549	123,805	132,291	120,623	134,444	167,951	175,333	124,879	123,822	45,961	114,543	172,196	1,542,997
439,573	354,207	335,247	231,125	241,340	311,644	179,007	234,477	210,863	259,212	312,424	363,542	3,499,923
427,576	322,453	312,270	247,691	237,160	296,335	151,142	147,051	122,941	179,112	340,055	344,343	3,207,120
227,149	122,222	225,117	476,794	492,920	227,919	312,149	321,522	399,224	412,956	272,519	727,290	2,727,290
95	74	63	53	39	22	29	29	41	67	94	121	711
22,254	22,022	19,923	20,295	14,770	9,274	6,991	2,279	2,223	14,956	21,162	21,522	220,071
1,090,008	933,836	243,323	642,837	479,922	215,345	520,025	542,452	560,122	641,496	1,041,424	1,041,922	9,395,244
12,227	2,792	7,529	1,762	1,116	474	179	179	503	1,349	2,122	2,244	32,371
23,222	27,242	16,391	15,622	12,621	9,236	2,071	2,216	9,656	11,527	20,125	26,233	191,124
99,727	23,624	22,133	72,227	45,152	52,952	52,512	54,225	73,327	23,521	121,244	112,757	243,943
67,444	54,532	42,622	42,449	35,222	32,996	24,624	25,291	22,372	32,952	52,622	63,121	512,279
1,221,275	272,455	621,572	625,412	462,577	372,272	321,476	331,741	324,716	321,216	222,562	224,392	7,224,272
1,224,123	1,245,422	232,333	752,222	523,524	473,134	412,992	422,452	496,622	636,422	991,765	1,227,413	2,942,422
322,222	224,424	192,726	222,776	222,123	176,512	191,137	172,411	195,225	229,222	332,569	322,242	2,724,294
2,534,342	2,243,729	1,272,322	1,629,675	1,463,575	1,465,211	1,124,132	1,141,515	1,252,225	1,527,222	2,325,752	2,461,235	21,221,197
1,741,227	1,743,429	1,642,121	1,651,954	1,795,225	1,515,219	1,722,261	1,614,292	1,522,142	1,724,724	1,667,222	1,763,952	22,322,244
4,275,737	3,927,152	3,534,523	3,221,669	3,259,422	2,922,292	2,913,213	2,755,227	2,232,173	3,292,524	4,292,922	4,225,127	41,392,241

COLORADO-WYOMING GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

For Year 1939	Delivery Point	January	February	March	April	May	June	July	August	September
Direct Customers										
Denver Board of Water Commissioners	Marston Lake	1,644	1,487	1,170	937	110	30	14	19	33
Federal Prison Farm	Denver									
Adolph Coors Company	Golden	1,748	1,809	1,683	1,880	1,447	1,709	1,490	68	104
Golden Fire Brick Company	Golden	3,796	3,910	3,995	3,694	6,047	10,502	5,861	5,568	4,837
Public Service Company of Colorado	Valmont					23,034				
Kumer-Engen Company	Brighton	2,362	2,187	2,001	2,197	1,006	944	800	4,314	8,577
Great Western Sugar Company	Johnstown	33,693	34,847	31,708	34,204	35,290	16,841	113	39	16,688
Denver Pressed Brick Company	Loveland	3,333	4,035	1,841	3,161	4,608	5,411	4,944	3,723	3,676
Colorado Portland Cement Company	La Porte	108,634				98,956	126,063	93,568	96,932	96,160
Producers Canning Company	Fort Collins	3						248	32	
Fort Collins Producing Company	Wellington Field	650	808	518	106				92	403
Sub-Total		155,883	149,083	38,916	146,179	172,598	161,500	106,038	110,787	130,478
U. S. War Department										
Fort Logan	Ft. Logan	633	623	587	664	610	768	778	698	591
Fort Warren	Ft. Warren	1,473	1,529	1,346	1,447	1,309	1,312	1,202	1,162	1,218
Total U.S. War Department		2,106	2,152	1,933	2,111	1,919	2,080	1,980	1,860	1,809
Green Sables Country Club	Denver	354	399	275	277	150	108	97		
Domestic Taps	Various	574	591	452	392	177	149	116		
Total Direct Customers		158,917	152,185	41,576	148,959	174,844	163,917	108,231	112,647	132,287
Highway Gas Company	Loveland	466	575	346	336	251	273	431	297	286
Greeley Gas & Fuel Company	Greeley	17,883	19,475	13,870	12,843	8,678	8,092	7,449	7,520	8,653
Cheyenne Light Fuel & Power Company	Cheyenne	31,816	38,722	41,220	42,005	25,148	20,148	15,797	17,814	20,102
Public Service Company of Colorado	Various	121,947	130,722	94,395	87,043	48,765	37,651	32,354	36,524	38,228
Sub-Total		152,112	180,142	110,831	113,527	73,842	66,164	55,981	62,155	67,269

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COLORADO-WYOMING GAS COMPANY
STATEMENT OF GAS SOLD M.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

January	February	March	April	May	June	July	August	September	October	November	December	Total
1,644	1,487	1,170	937	110	30	14	19	33	184	824	1,148	7,680
											68	68
1,748	1,809	1,683	1,880	1,447	1,709	1,690	68	104	1,043	1,744	1,892	15,617
3,796	3,910	995	3,694	6,047	10,582	5,861	5,568	4,837	4,788	3,841	3,581	57,100
				25,054						1,656		26,710
2,362	2,187	2,001	2,197	1,006	944	880	4,314	8,577	4,779	2,474	1,979	33,680
33,693	34,847	31,708	34,804	35,890	16,841	113	39	16,688	37,031	36,441	35,653	312,518
3,333	4,095	1,841	3,161	4,688	5,411	4,944	3,723	3,676	3,776	2,944	3,986	44,878
108,634				98,956	126,063	93,568	96,932	96,160	93,356	94,998	55,983	864,390
3						218	32					283
650	803	518	106				92	103	289	329	699	3,894
155,883	149,883	38,916	46,179	172,598	161,580	106,038	110,787	130,478	115,046	115,271	104,869	1,366,728
633	623	587	644	610	768	778	698	591	593	520	507	7,572
1,473	1,589	1,346	1,447	1,309	1,312	1,202	1,162	1,218	1,244	1,219	1,044	15,555
2,186	2,152	1,993	2,111	1,919	2,080	1,980	1,860	1,809	1,857	1,769	1,551	23,127
354	399	275	277	150	108	97						1,680
574	591	452	392	177	149	116						2,151
158,917	32,185	41,576	48,939	174,844	163,917	108,231	112,647	132,287	116,903	117,040	106,420	1,393,896
466	575	346	336	251	273	431	297	286	453	470	445	4,649
17,883	19,475	13,870	12,843	8,678	8,092	7,469	7,520	8,653	10,991	15,136	16,796	117,406
54,816	38,722	41,220	42,003	25,148	20,148	15,797	17,814	20,102	30,266	43,207	45,562	414,807
121,947	130,722	94,375	87,043	48,765	57,651	32,354	36,584	38,228	64,278	97,771	106,345	896,043

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BAD PRINT

COLORADO-WYOMING GAS COMPANY
STATEMENT OF GAS SOLD W.C.F.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

For Year 1940	Delivery Point	January	February	March	April	May	June	July	August	September
Direct Customers										
Denver Board of Water Commissioners	Marston Lake	1,817	1,818	955	577	101	41	23	19	28
Federal Prison Farm and Miscellaneous	Denver	285	21			12	9	70	124	151
Adolph Coors Company	Golden	2,021	1,935	1,132	1,097	1,045	1,124	1,052	542	66
Golden Fire Brick Company	Golden	1,768	166	609	2,172	3,235	4,135	2,944	4,908	4,907
Public Service Company of Colorado	Valmont									
Kaiser-Bishop Company	Brighton	2,799	2,705	2,087	1,974	1,136	851	1,900	4,415	10,708
Great Western Sugar Company	Johnstown	35,674	34,675	35,105	26,558	82	18	42	15	46
Denver Pressed Brick Company	Loveland	3,917	4,129	140	1,648	3,923	4,270	4,637	5,185	5,415
Colorado Portland Cement Company	La Porte				34,305	90,718	95,583	116,140	96,770	97,549
Producers Canning Company	Fort Collins							269	574	97
Fort Collins Producing Company	Wellington Field	777	1,770	986	230	62	12	26	30	314
Sub-Total		48,808	46,840	45,954	68,561	100,314	106,049	127,412	112,398	119,275
U. S. War Department										
Fort Logan	Ft. Logan	573	520	479	526	498	635	594	524	589
Fort Warren	Ft. Warren	1,243	1,242	1,091	1,135	1,008	1,353	1,295	1,169	1,350
Total U. S. War Department		1,816	1,762	1,570	1,661	1,506	1,988	1,889	1,693	1,939
Total Direct Customers		50,624	48,602	47,524	70,221	101,820	108,037	129,301	114,091	121,152
Highway Gas Company	Loveland	671	1,199	639	572	531	1,111	367	423	372
Greeley Gas & Fuel Company	Greeley	25,644	20,223	14,754	13,008	10,160	7,766	6,990	7,197	8,853
Cheyenne Light, Fuel & Power Company	Cheyenne	64,505	56,976	44,297	42,343	29,132	20,879	17,687	17,651	21,874
Public Service Company of Colorado	Various	152,645	129,396	96,018	87,158	58,721	42,059	34,651	36,000	43,089
Sub-Total		243,465	207,794	155,708	143,081	98,444	71,115	55,875	61,271	74,188
Grand Total		294,089	256,396	193,232	213,302	200,264	179,155	185,176	175,362	195,340

COLORADO-WYOMING GAS COMPANY
STATEMENT OF GAS SOLD W.C.P.
(ON UNIFORM PRESSURE BASE OF 14.65 LBS. PER SQUARE INCH)

BAD PRINT

Delivery Point	January	February	March	April	May	June	July	August	September	October	November	December	Total
Marston Lake	1,817	1,818	955	577	101	41	23	19	28	82	948	1,344	7,773
Denver	285	21			12	9	70	124	131	168	213	228	1,261
Golden	2,021	1,935	1,132	1,097	1,045	1,124	1,052	542	66	210	1,252	1,284	12,788
Golden	1,768	146	609	2,172	3,235	4,135	2,944	4,908	4,907	5,671	3,708	4,323	38,544
Valmont													
Brighton	2,759	2,705	2,087	1,974	1,136	851	1,900	4,413	10,708	2,977	2,374	2,880	36,756
Johnston	35,674	34,673	35,105	26,558	82	18	42	13	46	13,741	35,709	37,626	219,292
Loveland	3,917	4,129	140	1,448	3,923	4,270	4,637	5,183	5,413	4,403	4,392	972	43,029
La Porte				34,305	90,718	95,583	116,440	96,770	97,569	93,962	96,329	54,580	776,265
Fort Collins							249	374	97		9	12	761
Wellington Field	779	1,370	986	230	62	18	26	30	314	72	957	2,992	7,576
	48,808	46,840	40,954	68,561	100,314	106,049	127,412	112,398	119,275	121,286	115,917	106,241	1,144,046
Ft. Logan	573	580	479	528	1,498	635	594	524	529	575	721	757	6,933
Ft. Warren	1,243	1,242	1,091	1,135	1,008	1,353	1,295	1,169	1,350	1,354	1,048	2,030	16,318
	1,818	1,762	1,570	1,663	1,506	1,988	1,889	1,693	1,879	2,129	2,569	2,787	23,251
	58,616	48,602	42,524	70,224	101,820	108,037	129,301	114,091	121,152	123,415	118,486	109,028	1,167,296
Loveland	671	1,199	639	572	531	414	367	423	372	502	665	651	7,006
Greeley	23,644	20,223	14,754	13,008	10,140	7,766	6,990	7,197	8,853	11,219	18,397	20,196	162,407
Cheyenne	64,903	56,976	44,297	42,343	29,132	20,879	17,887	17,651	21,874	30,407	52,371	56,430	454,750
Various	152,645	129,396	96,018	87,158	58,721	42,059	34,631	36,000	43,089	65,547	111,293	119,410	975,987
	241,483	207,794	155,708	143,081	98,544	71,118	59,875	61,271	74,188	107,675	182,726	196,687	1,600,150
	292,099	256,396	198,232	213,305	200,344	179,135	189,176	175,342	195,340	231,030	331,212	305,715	2,767,446

The witness Lester stated exhibits 307 and 308 were compiled from figures taken from the Company books.

13. Description of the Facilities of the "Denver Line" Used and Useful in the Transmission of Gas.

By the term "Denver Line" it is intended hereinafter to describe the transmission system employed in transporting *all* gas sold under this project, as it exists, as distinguished from the one assumed transmission line that would be used and useful in transporting only *resale* gas sold under the project which "Resale Line" is next dealt with under Title 14.

The Denver Line begins at the intake side of the Bivins Compressor Station located in the gas field of the Canadian company at a point in Moore County, Texas, approximately thirty-five miles north of Amarillo. It is at this point that the production and gathering functions of Canadian terminate and the transmission line begins. This transmission line for the transportation of *all* gas includes the following described plant or property:

A. All of the properties of the respondent Colorado Interstate Gas Company beginning with the Denver Meter Station located just outside of the city limits and reaching southward, including all laterals, to the junction with the transmission line of Canadian near Clayton, New Mexico.

b. That part of the properties of Canadian located north of the intake of the Bivins Compressor Station and including that station, the gasoline extraction plant, the dehydration plant, a portion of the general property, automobiles, trucks and the Bivins Camp, and all of the main transmission lines and laterals, measuring station and telephone system, all extending northward to the junction with the transmission line of Colorado Interstate at Clayton, New Mexico.

This portion of the transmission system south of Clayton Junction, belonging to Canadian River, is described in detail in its brief, and the investment in such transmission property, as well as the depreciation, amortization, maintenance and other expenses in connection with the opera-

tion thereof, enters into the cost of gas sold and delivered by that company to this respondent at Clayton Junction. Evidence as to all such matters is dealt with at length in Canadian's brief to which reference is made.

The map of this transmission line, Exhibit 36-K is included as Appendix A herein. Other maps are included in Exhibits 5, 13, 36-K, 36-L, 36-M, 36-O, 36-P, 44, 45, 46, 48, 60, 70, 138, 281, 282. The Commission's witness O'Connor gave a good general description of Canadian's portion of this transmission system in his Exhibit 47 and of this respondent's portion in Exhibit 49. Also in his Exhibit 138-A, he made a written statement concerning his flow map, Exhibit 138. From those exhibits as well as Exhibits 65, 66, 68, 70, 281 and 282, offered for the companies, and additional Exhibits 139 and 146 submitted for the Commission, we can make the following descriptions of the main items of the transportation system belonging to this respondent from Clayton Junction, New Mexico, north to the Denver Meter Station just outside the City of Denver:

Clayton Junction is approximately seven miles northeast of the town of Clayton, New Mexico. At that point respondent owns a compressor station located approximately 400 feet north of the junction of this transmission line with Canadian. The equipment consists of three 1,000 h.p. Worthington Gas Engine Driven Compressors and appurtenances and auxiliary equipment and necessary housing. (Exhibit 65). The witness O'Connor for the Commission was in error in describing this equipment as consisting of only two such 1,000 h.p. units. (Exhibit 49, p. 3). On cross examination he corrected this:

"Q. Where you say that equipment at Clayton Compressing Station consists of two 1,000 h.p. Worthington Gas Engine Driven Compressors, my understanding is that there are three units. Is that correct?

"A. That is correct. . . . There are three compressors." (Vol. VII, p. 924).

From Clayton Junction in a general northwesterly direction the main transmission line extends approximately seventy-eight miles to the Canyon Compressor Station (O'Connor's Exhibit 49, p. 2). This line, as well as the remainder

of the main transmission line northward to the Devine Compressor Station, is a 22 inch outside diameter lap-welded steel "Dresser-coupled line . . .", and built with single random length pipe averaging 19 feet per joint." (Lee M. Hill's Exhibit 231, p. 2; O'Connor's Exhibit 49, p. 3).

The Canyon Compressor Station is located approximately forty-five miles southeast of Trinidad, Colorado and the equipment consists of "three 1,000 h.p. Worthington Gas Engine Driven Gas Compressors and appurtenant and auxiliary equipment" and necessary housing. (Exhibit 49, p. 3). The line then extends approximately seventy-one miles north to the Devine Compressor Station located eight miles east of Pueblo, Colorado. On this section of the line there are located two maintenance camps—the first, Delhi Maintenance Camp lying about midway between the crossings of the Purgatoire and Apishapa Rivers; the second, the Apishapa Maintenance Camp, lying just north of the crossing with the Apishapa River.

Just north of the Arkansas River there is located the Devine Compressor Station. There the equipment also consists of "two 1,000 h.p. Worthington Gas Engine Driven Gas Compressors and appurtenant and auxiliary equipment" and necessary housing. (Exhibit 49, p. 3).

From the Devine Compressor Station northward to Denver, the main line is of the same type, except that it is reduced in outside diameter from 22 to 20 inches, and extends approximately one hundred and five miles north to the Denver Meter Station at the Denver Gate. (Exhibit 49, p. 2). O'Connor, in his Exhibit 49, p. 3, makes the following description of the lateral lines:

"The lateral lines consist of welded or Dresser coupled steel pipe of various nominal diameters, from 2 inches to 8 inches."

On cross examination; he corrected this statement to read: ". . . from 2 inches to 16 inches". (Vol. XXXIV, p. 4701). Continuing, he states:

"The principal lateral lines are as follows:"

Lateral Line	Approx. Length (Miles)	Diameter of Pipe (Inches)
American Crystal Sugar Company.....	2	4
American Crystal Sugar Co. Loop.....	2	6
Arkansas Valley Lines	32	2, 3, & 4
Aurora-Fitzsimons	8	2, 6, & 8
Colorado Fuel & Iron Corp., Pueblo.....	12	16
Colorado Springs	6	8
Fountain Valley School	2	2
La Junta	35	6 & 8
Las Animas-Fort Lyon	25	6 & 8
North	7	10
Portland	28	8
Rocky Ford	4	8"
(Exhibit 49, p. 3).		

O'Connor stated in this same Exhibit 49, p. 3:

"The company maintains operators' villages and camps at each compressing station, and at a number of points along the transmission line.

"The company operates its own telephone system from Clayton Junction to Denver, which is located generally on pipe-line right off way.

"The company owns measuring stations at each gas delivery point for the determination of the volume of gas sold."

The Company's witness Rhodes confirmed the foregoing description of the Denver Line with his Exhibit 65 entitled "Statistics as to Physical Property of the Denver Pipe Line 1929 to 1939 inclusive". This witness, as vice president of FB&D, designed the line, participated in its construction and to some extent was concerned with its operation under the management contract of FB&D. On page 3 of his Exhibit 65, he gave a detailed description of the principal river crossings of the pipe line. These crossings were made with multiple or loop lines for safety or insurance in flood times. They are as follows:

Description

Principal River Crossings (C. I. G. Co.)	Size o.d. (in.)	Weight Per Foot (lb.)	Size or Length
Huerfano River (7 line).....	103 $\frac{3}{4}$	54.00	9,058 ft.
Arkansas River (6 line).....	103 $\frac{3}{4}$	54.00	15,224 ft.
Jimmy Camp Creek (3 line).....	103 $\frac{3}{4}$	43.68	2,727 ft.
St. Charles River (2 line).....	103 $\frac{3}{4}$	54.00	3,001 ft.
Huerfano Loop	103 $\frac{3}{4}$	33.48	1,446 ft.
Apishapa Loop	123 $\frac{3}{4}$	41.51	16,507 ft.
Sand Creek Loop.....	103 $\frac{3}{4}$	31.20	13,178 ft.

There was no conflict in the exhibits or testimony offered by the engineers or other persons experienced in the operation of the gas system on behalf of the respondent company, and those offered by the engineers of the Commission as to the "used or useful character" of any item of property in the Denver Line.

Since Mr. George I. Rhodes, for the company, and Messrs. Lee M. Hill and J. V. O'Connor, for the Commission, all testified as engineers under this title and testified on other technical subjects hereinafter, there will be included herein an abstract of the evidence pertaining to the qualifications of each.

Evidence of the fact that Mr. Rhodes is vice-president and director of FB&D, and that in addition he was chief engineer of that firm at the time FB&D designed and constructed the properties of this project, has already been abstracted hereinabove. That abstract shows that he personally checked the design (Exhibit 98, p. 1; Vol. XXII, p. 3150) for this project, and was on the ground participating in the supervision of the construction. It also shows that during the time FB&D operated the property under the management contract, Mr. Rhodes participated in the management and was generally familiar with the problems of the project.

Before going with FB&D, he graduated from Massachusetts Institute of Technology in 1905, with a degree of Bachelor of Science (Vol. VIII, p. 1101). He was then an instructor at his Alma Mater for a year. From 1906 to

1911, he was with the Motive Power Department of Interborough Rapid Transit Company, New York. From 1911 to 1917, he was consulting engineer of White Weld & Company, investment bankers, reporting on properties financed or about to be financed, all with respect to which that investment banking firm had any interest or connection (Vol. VIII, p. 1105). He then stated, for the record, some of the more important of 2,500 clients of FB&D; or its subsidiary, FB&D; Construction Corporation, including the United States Government, many of the states of the Union and practically all the largest industrial and utility corporations in America, for which his firm had made studies, designed properties and constructed properties (Vol. VIII, pp. 1103, 1104).

Since 1923, he has been largely occupied with work in the natural gas field. He first estimated the gas reserves of the Monroe, Louisiana, Field. This led to the construction by FB&D; of the natural gas burning power station of Louisiana Power & Light Company, which consumes more than 30,000,000 cubic feet per day. He and Edgar G. Hill of FB&D; have shared responsibility and have worked together on all natural gas projects in which FB&D; were employed. On the Edmonton, Alberta, Canada, job, Mr. Hill had charge of the construction and he had charge of checking designs and specifications. On the Louisiana pipe line system, Hill also had charge of construction, and he was responsible for compressor stations. On the Denver project, Hill also had charge of construction, but he made preliminary reconnaissance and reports and, as already stated, checked the design. FB&D; constructed, as general contractors, the line from Monroe, Louisiana, to Memphis and Jackson, Tennessee. Mr. Hill gave that job his prime attention, but the witness, as chief engineer of FB&D;, also did work in connection therewith. Hill had charge of the construction of the line from Monroe, Louisiana, to Eldorado, Arkansas, on which the witness was employed only as an executive of FB&D;. FB&D;, as general contractors, constructed the line from Monroe to St. Louis, on which the witness made preliminary reconnaissance and reports, and was likewise responsible for the construction. The men in the field reported directly to him. On Southern Natural Gas Company's line from Monroe to Atlanta,

Georgia, he made preliminary reconnaissance, and was responsible for the design as well as the supervision of the construction. In fact, he had charge of the whole work and made his headquarters in the field at Birmingham. In addition, he had charge of the financing of that construction, except the corporate relations with public authorities and the bankers. On the line of the Natural Gas Pipe Line Company of America from the Texas Panhandle Field to Chicago, he made the preliminary reconnaissance and reports as to location, costs and markets for one member of the group that finally joined in the financing of that project. He was also responsible for the construction of the Kansas section of the Chicago Line, and Mr. Hill had charge of the construction of the Illinois section of the same line. He had charge of the preliminary reconnaissance and design, and actual charge and supervision of the construction of El Paso Natural Gas Company's extension to Douglas, Arizona, and Cananea, Mexico, and of the enlargement of the capacity of the line from West Texas to El Paso and the Southeast New Mexico gas fields. He made designs and estimated costs of the natural gas system to serve territories served by Cities Service Gas Company. He had the final responsibility for the design and satisfactory construction of the gasoline pipe line from Amarillo, Texas, to East St. Louis, built by Phillips Pipeline Company. He was associated with Mr. Hill, who had the prime responsibility in the construction of the oil pipe line from the East Texas oil field to Shreveport. Also with Mr. Hill he was associated in the construction of a liquid propane pipe line from Charleston, West Virginia, into Kentucky, a gasoline pipe line from Toledo, Ohio to Detroit, Michigan, a gasoline pipe line from Reading, Pennsylvania, to Philadelphia, and also several hundred miscellaneous oil and gas lines scattered throughout the country. These properties were constructed under the direction of FB&D and cost more than \$125,000,000. About half of them were operated by FB&D for varying periods of years (Vol. VIII, pp. 1106-1109, inclusive). Since the fall of 1935 he has been engaged principally in valuations, cost determinations and analyses of operations of natural gas properties. He has given particular attention to prevention of corrosion on pipe lines. In addition to his work in the design, construction and

eration, for a time, of the Denver Line, he has recently made a study and examination of its properties in order to testify in this case, and, for that purpose, recently spent several weeks in the field and in the offices of the respondent Colorado and Canadian Companies (Vol. VIII, pp. 1109-1111, inclusive).

Mr. James V. O'Connor has been employed as a gas engineer by the Federal Power Commission since September, 1934. He graduated from Massachusetts Institute of Technology in 1923, with a B.S. in Mechanical Engineering. He attended night sessions of the Graduate School of Business Administration, N. Y. U. from 1927 to 1928. From 1923 to 1928, he was employed by the Brooklyn Edison Company, testing steam power plant equipment, developing improved operating methods, inventorying properties, making forecasts of power sales, output and demands, and miscellaneous tests, investigations, studies and reports on operating problems. From 1929 to 1934, he was employed by the American Gas Association in the collection, compilation and analysis of reports filed by member companies, and in the preparation of reports on production, transportation, distribution and sale of gas, and the preparation of data for the use of the Association's committees, and of data for use with Government agencies, gas utilities and others. Up until 1938, his work was primarily with electric utilities, but since that time it has been concerned with natural gas companies (Vol. VI, pp. 793, 794). All of his work with the American Association was in the office and none in the field (Vol. VII, pp. 874, 875). Until the passage of the Natural Gas Act, his work with the Commission was almost exclusively concerned with electrical companies. After the passage of that Act, his first assignment was to investigate the complaint of a coal dealer concerning discrimination in wholesale natural gas rates to serve an industrial business, lodged against a distributing company taking gas off the Denver Pipe Line (Vol. VII, pp. 875-878). He was then assigned to an investigation of the respondent companies and started work on March 15, 1939, in the office of the Canadian and Colorado Companies at Colorado Springs, and he never did any work on any other natural gas company (Vol. VII, p. 876).

[Testimony of LEE M. HILL.]

Q. State your name, please?

A. Lee M. Hill.

Q. Where do you reside, Mr. Hill?

A. Denver, Colorado.

Q. Where and by whom are you presently employed?

A. The Federal Power Commission.

Q. At the regional office in Denver?

A. Yes.

Q. And what is the nature of your occupation?

A. Associate Engineer.

Q. And how long have you been so employed by the Commission?

A. Since April 10th, 1939.

Q. April 10th, 1939?

A. Yes.

Q. Did you during the time of your employment with the Commission have any assignment in connection with the present—any portion of the present proceedings?

A. Yes, sir.

Q. That is, engineering work in connection with it, particularly the Canadian River Gas Company and the Colorado Interstate Gas Company?

A. Yes, sir.

Q. Now, before going to that, though, I will ask you whether you have before you and can read in the record your qualifications in connection with the work that you are doing with the Federal Power Commission?

A. Yes, sir.

Q. Will you do that now, Mr. Hill?

A. "My name is Lee M. Hill. I reside at Denver, Colorado. I am an engineer by profession. I have been employed by the Federal Power Commission at Denver, Colorado, since April 1939. I have performed engineering duties for the Commission and am now engaged in such duties in the capacity of associate engineer.

"I entered the Alabama Polytechnic Institute in September 1921 and there studied mechanical engineering for three and one-half years. I have passed the required state examination for engineers and am licensed to practice professional engineering in the State of Alabama.

I was employed by W. E. Brown Engineering Company at Miami Beach, Florida as a draftsman and instrument man. My experience with this company was mostly in design and layout of water drainage and distribution systems and sanitary sewers.

"In 1925 I went to Birmingham, Alabama as a draftsman for the Sloss-Sheffield Steel and Iron Company and remained in that capacity until the early part of 1927 when I was made construction engineer. My engineering experience with this company consisted of design, construction and general maintenance of blast furnaces, by-product plants, steam power plants, power transmission systems, water transmission and distribution systems, water filtration plants, coal and ore washers, mine tipples and electrification of mine properties.

"In February 1929 I was employed by the Southern Natural Gas Corporation and later by the Southern Natural Gas Company as a mechanical draftsman and worked on plans of their natural gas pipe line system, extending from the Monroe, Louisiana gas fields across the states of Louisiana, Mississippi, Alabama and into the state of Georgia.

"In 1930 I was made chief draftsman in charge of plans for a number of major pipe line extensions, compressing stations, measuring and regulating stations, and medium and low pressure distribution systems. In the early part of 1931 I was transferred to the operating department and there designed pipe line and compressor station extensions, measuring and regulating stations, industrial installations, distribution systems, and all other engineering work pertaining to maintenance and operation of natural gas transmission and distribution systems.

"In 1938 I was made construction engineer and designed and constructed two additional compressing stations. I left the employment of the Southern Natural Gas Company in April 1939 and since that time have been employed by the Federal Power Commission at Denver, Colorado."

Q. Mr. Hill, I will ask you whether or not in connection with your work with the Commission you have prepared an exhibit covering the determination of composite

service lives of physical properties of Canadian River—of Colorado Interstate Gas Company?

A. Yes, sir, I did.

Q. Is this the exhibit that I show you?

A. Yes, sir.

Mr. Lange: Will the stenographer please identify that?

The Trial Examiner: It will be marked for identification as Exhibit No. 177.

(Exhibit 177, Witness Hill, marked for identification.)

By Mr. Lange:

Q. Mr. Hill, during what period of time since you have been employed with the Federal Power Commission have you worked on this assignment?

A. Ever since I have been with them.

Q. And that was what month and year?

A. April 1939.

Q. April 1939?

A. Yes.

Q. In connection with this work did you actually go over the property?

A. Yes, sir, I did.

Q. And personally saw the items of property that you would describe in those portions of the pipe that are underground and that you inspected at certain points along the line?

A. Well, some of the inspections I made, not all of them.

Q. Not all of them?

A. No. I did inspect all the property.

Q. You inspected the compressor stations, too?

A. Yes, sir.

Q. Now, did you in connection with this exhibit prepare—or, rather, turning to Page 1 of this exhibit, will you read that statement which was prepared by you?

(Vol. I, pp. 6957-6961.)

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EXHIBIT NO. 138-A.

Written Statement of James V. O'Connor.
Flow Diagram.

Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company.

Exhibit No. 138 is a graphical map, prepared under my supervision, entitled "Flow Diagram of the Pipe Line Systems of Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company for the Year 1939."

The basic data used in preparing the exhibit were obtained from maps and information supplied by the companies, and from information collected by the Commission's engineering and accounting staff from the records of the companies.

The diagram shows, in graphic form, the volumes of gas transmitted by the companies listed on the diagram, the volumes delivered and sold at each delivery point, and the volumes used by the companies or lost in operations, for the year 1939. The diagram, in effect, shows the disposition of the total volume of gas produced by Canadian River Gas Company in the Texas Panhandle Field in 1939.

All figures on the diagram are gas volumes in MCF at 14.65 pounds per square inch absolute. Company records of gas volumes, at various pressure bases, were converted to 14.65 pounds per square inch absolute by multiplying volumes shown on company records by the ratio of the absolute pressure bases on which the volumes were recorded to 14.65. Volumes recorded by the companies have not been corrected for any other factors.

The approximate geographical locations of all gas deliveries are shown on the map. The volume of gas transmitted through the pipe lines is graphically illustrated by the width of the flow lines. In general, their width is directly proportional to the total volume of gas which flowed past any given point during 1939. The volume of gas sold to each direct customer, pipe-line company, and distribution system in 1939 is shown.

In the lower right-hand corner, there is a rectangle which indicates the total well production of Canadian River Gas Company in 1939, amounting to 46,783,394 MCF. The diagram shows that this well production is delivered as follows:

To the Denver Line, 21,059,780 MCF, or 45.0%.

To the Chicago Line, 20,191,512 MCF, or 43.2%.

To Amarillo Oil Company in the field for resale at Channing, and at Amarillo and vicinity, 4,809,758 MCF, or 10.3%.

Company use in the field and free gas to lessors, 722,344 MCF, or 1.5%.

The wide black line extending south indicates the total volume of gas sold by Canadian River Gas Company to Amarillo Oil Company for resale at Amarillo and vicinity under Contracts "B" and "C" (Exhibits 16-B and 16-C in this proceeding). The diagram also shows the disposition of this gas, including the amount ultimately delivered by Panhandle Pipe Line Company to Amarillo Gas Company for resale to consumers in Amarillo, Fritch, and Exell; the volume sold to West Texas Gas Company near Amarillo by Amarillo Oil Company; and the volume delivered to the smelter of the United States Zinc Company at Amarillo by Amarillo Oil Company. This section of the diagram also shows the volume of residue gas which Amarillo Oil Company purchased from the helium plant operated by the United States Bureau of Mines near Amarillo, and resold to the United States Zinc Company.

The wide line extending in a northeasterly direction indicates the volume of gas which Canadian River Gas Company transmitted through the facilities of Texoma Natural Gas Company to Gray Junction, Oklahoma, and sold to Colorado Interstate Gas Company at that point. At the same location, Colorado Interstate Gas Company sold the gas to Natural Gas Pipeline Company of America for resale to direct customers and to distribution companies in Kansas, Nebraska, Iowa and Illinois. Colorado Interstate Gas Company supplies approximately 25 percent, and Texoma Natural Gas Company supplies approximately 75 percent of the total natural gas requirements of Natural Gas

Pipeline Company of America. The diagram shows only the portion supplied by Colorado Interstate Gas Company. If the entire volume transmitted through the facilities of Texoma Natural Gas Company to Gray Junction, Oklahoma to supply Natural Gas Pipeline Company of America were shown, the flow line would be approximately four times as wide.

The line extending in a general northwesterly direction shows the volume of gas handled on the transmission systems owned and operated by Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company. Along this interconnected pipeline system, volumes are delivered and sold at various points, and the width of the flow line decreases correspondingly. Slight reductions in the width of the flow line occur at Hartley, Dalhart, and Texline where Canadian River Gas Company sells gas to Amarillo Oil Company for resale to Dalhart Gas Company, and at Clayton, New Mexico where Canadian River Gas Company sells gas to Clayton Gas Company. A more substantial reduction in the width of the main flow line occurs at the point where the La Junta Lateral of Colorado Interstate Gas Company takes off to serve direct customers and distribution systems in the Arkansas Valley in Colorado. A sharp reduction in the width of the flow line occurs at Pueblo due to the large deliveries to Colorado Fuel and Iron Corporation, and another considerable decrease in the width of the flow line occurs where gas is taken off for delivery to Colorado Portland Cement Company at Portland, Colorado. The flow line is further reduced as deliveries are made to the City of Colorado Springs. A sharp reduction in the width of the flow line occurs at Denver, where deliveries are made to Public Service Company of Colorado. The flow line extending from Denver north, with numerous branches, indicates gas handled and sold by Colorado-Wyoming Gas Company. The flow line for this company decreases in size as deliveries are made to various customers, and terminates as a narrow line at Fort Warren, Wyoming. Fairly substantial reductions in the width of the flow line for Colorado-Wyoming Gas Company occur at the point where the gas is taken off for delivery to Colorado Portland Cement Company at La Porte, and at the Greeley-Johnstown-Great

Western Sugar Company lateral from which gas is delivered to Great Western Sugar Company and also to the distribution systems at Greeley and Johnstown, Colorado.

This diagram serves to graphically portray the relative volumes of natural gas delivered at various points and to various consumers along the pipe-line systems. For instance, the diagram shows that the largest delivery, 20,367,632 MCF, was made at Gray Junction, Oklahoma to Natural Gas Pipeline Company of America; the second largest delivery, 7,257,379 MCF, was made to Colorado Fuel and Iron Corporation at Pueblo, and the third largest delivery, 6,196,882 MCF, was made to Public Service Company of Colorado for resale in Denver.

The diagram also facilitates comparison of the volumes of gas delivered at the several points. For instance, among the many comparisons that can be made, the following are cited here:

(1) Deliveries to the Chicago Line are very nearly equal to deliveries to the Denver Line.

(2) Sales to Colorado Fuel and Iron Corporation at Pueblo are greater than deliveries at any other point on the Denver Line. Sales to Colorado Fuel and Iron Corporation were 1,060,497 MCF, or 17 percent greater than sales to Public Service Company of Colorado at Denver, the second largest delivery on the Denver Line.

(3) Sales by Colorado Interstate Gas Company to Colorado Portland Cement Company at Portland, Colorado, the second largest direct customer on the Denver Line, were 1,676,091 MCF, which is 220,537 MCF greater than the total volume of gas (1,455,554 MCF) sold by Colorado Interstate Gas Company to all distribution systems, except Public Service Company of Colorado.

(4) Sales by Colorado Interstate Gas Company to Colorado Fuel and Iron Corporation and Colorado Portland Cement Company, its two largest direct customers, were 8,933,470 MCF, which is approximately 19 percent more than Colorado Interstate's sales of 8,106,507 MCF to all distribution companies, including Public Service Company of Colorado.

(5) Colorado Interstate's total sales in the Arkansas Valley were 1,153,249 MCF. Of this total, 972,232 MCF or 85 percent was sold to three direct customers, and the remaining 15 percent, or 181,017 MCF, was delivered to eight distribution systems. Deliveries to each of the three direct customers were greater than total deliveries to all eight distribution systems.

(6) Sales by Colorado Interstate Gas Company to the distribution system at Pueblo, a city of approximately 50,000 population served by a 16-inch pipe line, were 452,992 MCF, or only 9 percent more than sales by Colorado-Wyoming Gas Company to the distribution system at Cheyenne, Wyoming, a city of approximately 20,000 population served by a 6-inch pipe line.

(7) The largest single delivery by Colorado-Wyoming Gas Company is made from the company's Cement Branch line to the Colorado Portland Cement Company at La Porte. This sale was 864,390 MCF in 1939, and was greater than the sum of the deliveries to the two largest distribution systems served, Fort Collins and Cheyenne. Deliveries to the two cities totaled 751,068 MCF.

(8) Colorado-Wyoming's second largest outlet was the Greeley-Johnstown-Great Western Sugar Company branch line. Total sales from this line in 1939 were 467,691 MCF, of which 312,548 MCF or 67 percent was sold to Great Western Sugar Company, a direct customer, and 155,143 MCF or 33 percent was sold to the distribution systems at Greeley and Johnstown, Colorado.

The diagram also shows state lines and the approximate volumes of gas which crossed various state lines through facilities owned or leased by Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company. No gas measurements are made at state lines by any of the companies. The volume of gas shown as having crossed the Colorado-Wyoming state line is the sum of deliveries to Cheyenne and Fort-Warren, or 430,362 MCF. The volume shown on the diagram as crossing the New Mexico-Colorado state line, 21,038,665 MCF, is the summation of the volumes of gas recorded as sold and used by Colorado Interstate Gas Company north of

that boundary. The volume of gas shown as crossing the Texas-New Mexico state line is the sum of the preceding figure, 21,038,665 MCF, the volume used at Clayton Compressing Station, 68,431 MCF, and the volume sold to Clayton Gas Company, 104,710 MCF, or a total of 21,211,806 MCF. The volume of gas shown on the diagram as crossing the Texas-Oklahoma state line, 20,367,632 MCF, is the amount sold by Colorado Interstate Gas Company to Natural Gas Pipeline Company of America, at Gray Junction, Oklahoma.

14. Description of the Facilities of an Assumed Denver Line Used and Useful in the Transmission of Resale Gas Only.

The witness Rhodes, as the evidence already abstracted shows, took part in the design and personally checked the design of the Denver Line as built. In his Exhibit 98 and his testimony from the stand he described the facilities of a line that would be required to transport *resale* gas only.

The transmission line, as built, was for both direct sale gas and resale gas. It is of 22-inch diameter from the Bivins Station to the Arkansas River in Colorado, and from there on into Denver it is of 20-inch outside diameter. Practically all of the direct sale gas leaves the line in the valley of the Arkansas River (Vol. XXII, p. 3150; O'Connor's Exhibits 138 and 138-A). Colorado Interstate has only two direct sale customers north of the junction of the 22-inch and the 20-inch lines. They are, first, the Colorado Portland Cement Company and, second, the City of Colorado Springs power plant (Rhodes, Vol. XXII, p. 3166). Colorado Interstate's contract with the Colorado Portland Cement Company under which respondent is only obligated to sell gas "from March to October, inclusive, and for longer periods each year by mutual agreement, if seller has gas and capacity available." (Rhodes, Vol. XXII, p. 3166; Exhibit 9.) On peak loads the supply to Colorado Portland Cement Company has been cut off completely (Rhodes, Vol. XXII, p. 3167; Exhibit 290, Beardsley, Vol. VII, p. 942-954; Vol. XCVIII, pp. 15202-15213). After reciting the foregoing facts, Rhodes stated:

"It is obvious that the extra two inches in diameter south of the Arkansas River was installed primarily for

the purpose of handling this direct sale gas. The principles which govern the design of the present line thus require an all 20-inch Denver line for resale gas alone. These same principles require the 20-inch pipe for such an all 20-inch Denver line to be of the same weight as the 20-inch pipe in the present line north of the Arkansas River.

"I might point out that in place of 86.60 pounds per foot for 20-inch pipe, we reduced it to 72.16 pounds per foot for 20-inch pipe which is the weight of the heavy 20-inch pipe north of the Arkansas; and in place of the 79.50 pounds per foot for 22-inch pipe, namely, the light pipe, we used 65.70 pounds, which is the same as the 20-inch pipe."

A line for resale gas alone would not only permit smaller, that is, 20-inch, outside diameter main line throughout its length and of lighter weight, but would also permit the elimination of the following laterals which are used solely in the delivery of direct sale gas:

"Table B

Laterals Not Needed for Resale Gas Alone.

	Length Feet	O. D. Inches	Lb. Per Foot
Colorado Fuel & Iron Branch.....	1,290	16	52.35
Portland Lateral	145,875	8 $\frac{5}{8}$	18.25
Portland Lateral	2,205	8 $\frac{5}{8}$	33.04
Fort Lyons Extension	25,255	6 $\frac{5}{8}$	12.89
Fort Lyons Extension	2,000	6 $\frac{5}{8}$	25.65
Santa Fe Shops Branch.....	7,277 (A)	4 $\frac{1}{2}$	8.63
Harvey House Branch	2,787 (A)	2 $\frac{3}{8}$	3.65
American Crystal Sugar Branch	9,634	6 $\frac{5}{8}$	12.89
American Crystal Sugar Branch	1,105	4 $\frac{1}{2}$	8.63

Note: (A) All but 2,066 ft. of 4 $\frac{1}{2}$ in. disposed of in 1939."
(Exhibit 98, p. 3; Rhodes, Vol. XXII, p. 3151)

Likewise, the following laterals now used for both kinds of gas could be reduced in size when employed for resale gas alone:

"Laterals Reduced in Size for Resale Gas Alone.

	Length Feet	As Built		For Resale Gas	
		O. D. Inches	Lb. Per Foot	O.D. Inches	Lb. Per Foot
Pueblo Lateral	60,636	16	52.35	8 $\frac{5}{8}$	18.25
La Junta Trunk	160,001	8 $\frac{5}{8}$	18.25	6 $\frac{5}{8}$	12.89
La Junta Trunk	269	10 $\frac{3}{4}$	54.00	8 $\frac{5}{8}$	27.74
La Junta Extension	22,189	6 $\frac{5}{8}$	12.89	6 $\frac{5}{8}$	12.89
La Junta Extension	100	6 $\frac{3}{4}$	19.45	6 $\frac{5}{8}$	19.45
Rocky Ford Branch	22,336	8 $\frac{5}{8}$	18.25	6 $\frac{5}{8}$	12.89
Las Animas Extension	2,052	8 $\frac{5}{8}$	18.25	4 $\frac{1}{2}$	8.63
Las Animas Extension	105,310	6 $\frac{5}{8}$	12.89	4 $\frac{1}{2}$	8.63
Las Animas Extension	595	6 $\frac{5}{8}$	21.06	4 $\frac{1}{2}$	8.63
Las Animas Extension	129	4 $\frac{1}{2}$	8.63	4 $\frac{1}{2}$	8.63"

(Exhibit 98, p. 4; Rhodes, Vol. XXII, pp. 3152, 3153)

Likewise, the following river crossing facilities could be reduced:

"River Crossing Reduced in Size for Resale Gas Alone

	Length Feet	As Built		For Resale Gas	
		O. D. Inches	Lb. Per Foot	O.D. Inches	Lb. Per Foot
Huerfano River	7 at 1,294	10 $\frac{3}{4}$	54.00	.....	.....
Huerfano River	6 at 1,294	.....	.....	10 $\frac{3}{4}$	54.00
St. Charles River	2 at 1,500	10 $\frac{3}{4}$	54.00	6 $\frac{5}{8}$	25.65"

(Exhibit 98, p. 5; Rhodes, Vol. XXII, p. 3163).

A line built for resale gas alone would not require the following meter stations now used exclusively in measuring direct sale gas: One at Thatcher for the helium plant, U. S. Government; one at Fort Lyons Hospital, U. S. Government; one at American Crystal Sugar Company plant; one at La Junta for the Santa Fe Railroad shops, and one for the Harvey House; one at Colorado Portland Cement; and one main and four branch meters, C. F. & I. plant, Pueblo.

Since at times of peak demand the resale gas employs all of the compressor stations, no such compressor station could be eliminated on a line for resale gas alone. Rhodes stated:

"A 20 inch Denver line for resale gas alone developed under the same principles of design as the 22 inch line

actually built calls for compressor stations in the same locations and initially of the same size as those actually built." (Exhibit 98, p. 6; Vol. XXII, p. 3154.)

Additional facilities for such a "*resale line*" that would be made necessary by estimated future peak loads of resale gas are set forth hereinafter under Title 17, "Peak Load Obligations and Line Capacity of an Assumed Denver Line for Resale Gas Only, as Found Through the Winter 1939-1940, and as Estimated Through 1947, and Estimated Necessary Additional Facilities."

Further Testimony of WITNESS RHODES, on Cross-examination:

Q. Mr. Rhodes, what is the purpose of this exhibit?

A. It shows a description of what would have been built had we been considering only the gas sold for resale.

Q. As I understand it, your firm, Ford, Bacon & Davis, Inc., in 1928, in designing this line designed it for this dual load, both the domestic and industrial consumers, and the retail consumers?

A. That is correct.

Q. At that time did you make any study as to the possibility of constructing a line and the cost of constructing a line just to serve the resale customers?

A. No. At that time we did not make such a study.

(Vol. XXII, pp. 3163; 3164.)

Rhodes testified further with reference to the scope of Exhibit 98:

A: "1. Scope of This Exhibit.

"The Denver line was planned, constructed and developed to take care of the markets both for gas to be sold for resale and for gas to be sold directly to the consumer. The line was designed by the Ford, Bacon & Davis, Inc. organization with final check and approval by me as Chief Engineer. The markets for gas sold for resale alone require a line of smaller capacity. This exhibit describes such a Denver pipe line system designed to supply this restricted market but otherwise following the same principles that govern the design and development of the pres-

ent pipe line system. This description is confined to those parts of such a system which differ from the system as actually developed.

"2. Pipe Size in the Main Trunk Line for Resale Gas Alone.

"The trunk line of the present system is of 22-inch pipe from the field to the Arkansas River and 20-inch pipe from the Arkansas River to Denver. Practically all of the direct sale gas is taken off from the main line in the Arkansas River Valley and all but a small fraction of the resale gas is handled through the 20-inch line north of the river.

"It is obvious that the extra two inches in diameter south of the Arkansas River was installed primarily for the purpose of handling this direct sale gas. The principles which governed the design of the present line thus require an all 20-inch Denver line for resale gas alone. These same principles require the 20-inch pipe for such an all 20-inch Denver line to be of the same weight as the 20-inch pipe in the present line north of the Arkansas River. The length and weight of pipe in such a Denver line in comparison with the length and weight of the corresponding pipe used in the present line are shown by Table A."

Q. Mr. Rhodes, if I may interrupt you here, please.

Mr. Dougherty: Will it be sufficient to let this table A go or have it copied in? Which is desired?

The Trial Examiner: I think as long as the table is contained in the exhibit, Mr. Dougherty, that will be sufficient. I don't think there is any necessity for him reading the tables.

By Mr. Dougherty:

Q. You may skip the tables; that table, at any rate, Mr. Rhodes.

A. I might point out that in place of 86.60 pounds per foot for 20-inch pipe, we reduced it to 72.16 pounds per foot for 20-inch pipe which is the weight of the heavy 20-inch pipe north of the Arkansas; and in place of the 79.50

pounds per foot for 22-inch pipe, namely, the light pipe, we used 65.70 pounds, which is the same as the 20-inch pipe.

“3. Pipe Size in Laterals for Resale Gas Alone”—

I will call attention to an error in the heading of Section 3 which I have just noticed. It should read: “Laterals not needed for resale gas alone.”

The Trial Examiner: You would strike, Mr. Rhodes, the first three words?

The Witness: I would eliminate “Pipe Size in Laterals” and substitute for that “Laterals Not Needed.”

The Trial Examiner: Very well.

Mr. Reporter, please make that physical correction in the record.

The Witness: May we go off the record?

The Trial Examiner: Yes.

(Discussion outside the record.)

The Trial Examiner: On the record.

Mr. Rhodes, will you make that statement now for the record?

The Witness: The subject of the third section should be: “Laterals Not Needed and Pipe Size in Laterals for Resale Gas Alone.

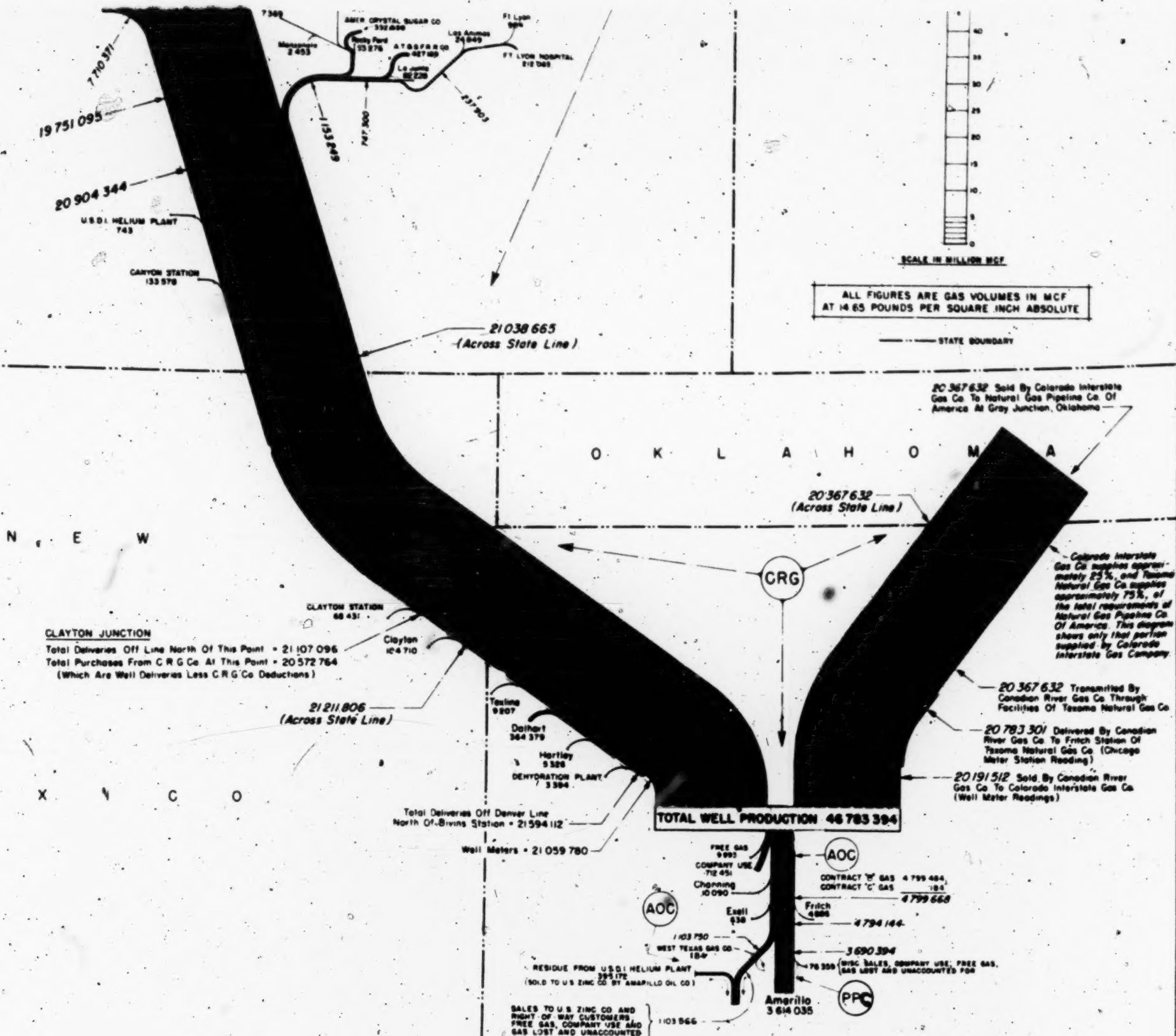
“A system built solely for resale gas has no need for the following laterals that are used solely in the delivery of direct sale gas.”

Then there is Table B. I understand we don't need to have it read into the record.

The Trial Examiner: You don't need to read it.

The Witness: “Other laterals of reduced size are sufficient for the delivery of resale gas alone. Such laterals of reduced size for resale gas are shown below in Table C in comparison with the laterals used jointly for resale and direct sale gas:”

I then list Table C.



"Laterals of the reduced diameter shown above are consistent in size with the laterals already serving communities in which the market for resale gas fixed the size. For instance, the reduced Pueblo Lateral is the same size as the Colorado Springs Lateral whose size was fixed by the resale gas requirements.

"4. River Crossings for Resale Gas Alone.

"The Arkansas River crossing is a part of the 20-inch line north of the river. It supplies the gas carried by that line. It comprises six 10-3/4-inch lines, the aggregate flow capacity of which is practically identical with that of the 20-inch pipe. The Huerfano River crossing in the present 22-inch line has seven 10-3/4-inch lines instead of the six lines in the Arkansas River crossing. The seventh line is not required in all 20-inch Denver line for resale gas alone.

"The 16-inch Pueblo Lateral now handling both direct sale and resale gas crosses the St. Charles River with two 10-3/4-inch lines. The 8-5/8-inch Pueblo Lateral required for resale gas alone requires only two 6-5/8 lines in this same river crossing.

"All other river crossings are of capacity none too great even for a 20-inch line and are required as installed in an all 20-inch Denver line. The loop lines at the Huerfano and Apishapa Rivers and the Sand Creek were installed as insurance against washouts and are required as installed in an all 20-inch Denver line. The river crossings of reduced capacity required in an all 20-inch Denver line for resale gas alone are shown in Table D in comparison with the river crossing lines as actually installed."

Then follows Table D.

"5. Meter Stations Not Needed for Resale Gas.

"Denver line built for resale gas alone would not require the following meter stations which are used solely for the measurement of direct sale gas:"

Then follows Table E.

"6. Compressor Stations on a 20-inch Denver Pipe Line for Resale Gas Alone.

"A 20-inch Denver line for resale gas alone developed

under the same principles of design as the 22-inch line actually built calls for compressor stations in the same locations and, initially of the same size as those actually built. Such sizes are—Bivins, 3,000 hp.; Clayton, 3,000 hp.; Canyon, 3,000 hp.; and Devine, 2,000 hp.

The capacity of the 20-inch line is most effectively increased in later stages of development by the installation of intermediate booster stations when the ultimate capacities required are commensurate with the expected future resale domestic and regular industrial obligations. Such a step involves installing a 3,000 hp. booster station at Dalhart, an 1,800 hp. booster station near the Cimarron River about midway between Clayton and Canyon, an 1,800 hp. booster station near the Apishapa River about midway between Canyon and Devine and a third booster station of 1,800 hp. near Colorado Springs (later referred to as the 'Springs' station) together with an increase in capacity of the Devine station to 3,200 hp. Vertical 600 hp. multi-cylinder two cycle engines such as those recently installed in the line are suitable for such booster and peak load service.

"The final stage of development required for the later years involves increasing the capacity of the Dalhart, the Clayton, the Cimarron and the Apishapa stations by 1,200 hp. each.

"In the Bivins station 3,000 hp. is sufficient for resale gas until 1941 when one 600 hp. unit in the present building is required to offset falling suction pressures. A second 600 hp. unit is required to be installed in the present building in 1942. In 1943 three more such units are required in a new building in anticipation of a 150-pound suction pressure.

"The gross net pipe line flow capacities of the several stages of development computed for the geographical load distribution of the resale domestic and regular industrial obligations are shown by Table F. Gross capacity is that with all compressor units in operation. Net capacity is that with the largest unit in each station out of commission. These flow capacities are shown in terms of salable output on the one hand and line input including fuel on the

other hand. The capacities are shown for the whole system north of Bivins and for Colorado Interstate's system north of Clayton."

I believe there is nothing about Table F that I need explain at this time.

"7. Peak Load Obligations and Line Capacity of a Denver Pipe Line for Resale Gas Alone.

"Table G which follows on Page 10 shows in the second and third columns, year by year (a) the total domestic and domestic and regular industrial peak load obligations and (b) the total peak load obligations on account of resale gas, for the entire Denver pipe line in January and February of that year. These obligations cover those actually developed in the past as well as those expected in the future. The figures are based on an exhibit already presented entitled 'Development of Peak Load Obligations and Line Capacity of the Denver Line.'

"The last two columns show the gross and the net continuous pipe line flow capacities in terms of salable output required for a program of development following the same principles as to relation between obligations and line capacity as governed the development of the line actually built. These figures were taken from Table F and are set down to the nearest 1,000,000 cubic feet per day."

In this Table I will call attention to the fact that the capacity is first shown as that with only the Bivins station alone. That capacity, when rounded out, corresponds to the stage of expansion called Initial Expansion in Table F, and the next figure of 62,000,000 "Gross With All Engines Running" corresponds to the first stage of expansion as shown in Table F, and each of the sub-headings increases in flow capacity corresponds with the corresponding stages of the development.

"The following Table H shows the maximum daily volumes of gas required from Canadian River Gas Company to meet full load requirements of a 20-in. Denver line for resale gas alone.—These requirements are shown in Mcf. per day at the average pipe line sales pressure base of 13.0 pounds per square inch absolute and also in Mcf. per

day at the field pressure base of 16.4 pounds per square inch absolute. The capacity input to the line from the Bivins station is shown and also the capacity input to the Clayton station for transportation to and sale at points north."

By Mr. Dougherty:

Q. Mr. Rhodes, if you will, turn to Page 4 of Exhibit No. 98 under the heading 4. You refer to the Arkansas River crossing. You say that it consists of six lines each of which is 10- $\frac{3}{4}$ -inches in diameter. In your statement there with respect to the aggregate flow capacity of that it says:

"* * * practically identical with that of 20-inch pipe."

Now, by that do you mean that all of these six 10- $\frac{3}{4}$ -inch lines together have an aggregate flow capacity of one pipe that would be 20 inches in diameter?

A. That is right for the same pressure drop in crossing the river.

Q. Why is it that one pipe 20 inches in diameter has a gross capacity that is so many times greater than, say, the pipe that is substantially one-half of the diameter of it?

A. There are two reasons. One reason is, of course, the cross-sectional area of the 20-inch pipe is about four times the cross-sectional area of the 10-inch pipe. That would amount to a 4 to 1. In addition to that, as pipes grow larger the coefficient of friction grows smaller, the combined effect of which, doubling the diameter, increases the capacity to carry gas about six times.

Q. Does that same principle explain why a pipe line that is only two inches in diameter greater than that that exists north of the Arkansas River is able to take care of industrial sales delivered to the Colorado Fuel & Iron Company?

A. Yes, that is true. The flow capacity of the 22-inch line, namely 10 per cent bigger in diameter, is approximately 30 per cent greater than that. In other words, the 22-inch line for exactly the same pressure drop would carry almost 30 per cent more gas, between 25 per cent and 30 per cent. I can't read the chart accurately enough for that.

Q. Is the formula which you used, which you apparently referred to on a chart there, one that is accepted in the natural gas industry as being an accurate and appropriate method of determining pipe line flow capacity?

A. Yes, that is the basis of the Weymouth formula, which is almost in universal use.

Q. That is the formula by Thomas L. Weymouth, the gas engineer?

A. That is true.

Q. As I understand the study which is embodied in this Exhibit 98, is in effect what would have been required if this pipe line were projected only to sell gas to the various public utility companies for distribution for all purposes by them?

A. That is true, but with the further point that it is the pipe line that would have been built with the same design principles which were used in designing the line as actually built.

Q. As I understand it, you have not attempted to make a reproduction today—not a "reproduction" but a line design as of today of that system?

A. That is true.

Q. You have built this exhibit up on a pipe line project on the basis had it been constructed in 1928 to take care only of the gas sold by Colorado Interstate Gas Company for resale and also whatever is sold between the Bivins station and Clayton?

A. That is correct.

Mr. Dougherty: That is all of the direct we have.

The Trial Examiner: Mr. Dougherty, do you wish to identify this sheet of paper with the exhibit at this time?

Mr. Dougherty: Yes. I want to ask Mr. Rhodes a question about it first.

(Discussion outside the record.)

Mr. Dougherty: There has also been a statement prepared titled "Peak Months Deliveries at Clayton, New Mexico for Colorado Interstate Gas Company's Requirements of Gas Sold for Resale, 1928 to 1947, inclusive," which I would like to have marked for identification as Exhibit No. 99.

The Trial Examiner: It will be marked for identification as Exhibit No. 99.

(Exhibit 99, Witness Rhodes, marked for identification.)

By Mr. Dougherty:

Q. Have you had that statement prepared under your supervision, Mr. Rhodes?

A. Yes, I have. These figures are for the average month of 31 days—I mean the maximum month of 31 days, and the average days in that month are commensurate with the figures shown in Table H in Exhibit 98.

Q. That is the last column of Table H in Exhibit No. 98?

A. The last column of Table H in Exhibit 98 shows the line capacity at Clayton north and this Exhibit 99 shows the average day and the maximum month for the resale of gas in the same years.

Q. I assume that, of course, is something entirely different than during the peak month or any peak day?

A. Yes. The peak day during the peak month is likely to be fully 50 per cent higher than the average day in the peak month.

Q. Do the figures on Exhibit 99 relate, as you state, only to the gas delivered at Clayton for the Colorado Interstate Gas Company, which in turn the Colorado Interstate Gas Company sells to the Public Service Company of Colorado for distribution?

A. It is solely gas sold for resale by the public utility.

Q. Included in that term of "public utility" is termed the municipality of Colorado Springs, is that correct?

A. Yes.

Q. Exhibit No. 79, statement showing the volumes of gas produced in peak months and average daily deliveries in peak months, shows in Column 1: "Peak Month Deliveries" under the heading of "Colorado Interstate Gas Company, Clayton, New Mexico" and then in parenthesis "Denver Line."

That column, I take it, includes not only the quantities of gas that you have shown on Exhibit No. 99 but all gas which Colorado Interstate Gas Company buys at Clayton for sale to the direct industrial customers?

A. That is correct. Mr. Lusk's exhibit shows all of the

gas that goes up the line, whereas this Exhibit No. 99 shows only the resale gas.

Q. And is that same situation true with respect to the figures which are contained in Exhibit No. 66 which is your exhibit referred to as the "Development of Peak Load Obligations"?

A. That is true. My Exhibit No. 66 deals with all of the gas but it breaks it down into considerable detail.

Q. Are these figures on Exhibit No. 99 actual peak month deliveries for the past or at least the average days or computed from that as distinguished from what you referred to as the peak load obligations in Exhibit No. 66 or are these on Exhibit No. 99 the peak load obligations for that month?

A. These figures in Exhibit No. 99 are based on actual deliveries of gas in the maximum months from 1939 back, and estimated future maximum months from 1940 to 1947 that are based on the estimated future sales.

(Vol. XXII, pp. 3149-3163.)

Q. Now, Mr. Rhodes, you have made a careful study of this, I am sure. What size line would you recommend just to take care of the direct industrial consumers?

A. I have never given any consideration to the size of line which would be required by that business because long distance transmission lines ordinarily can't be built economically for these large consumers to whom gas has to be sold at a very low price.

Q. Well, Mr. Rhodes, if you haven't given any study to what size line would be necessary to serve these direct industrial consumers; then just why did you give so much study to the size of line which would be required to take care of these resale consumers?

A. So we would know what size line would be required to handle this particular class of business.

Q. Don't you think that it is—in order to present a fair and complete picture here, you would have to present a companion study which would show just exactly the size of the line you would need to take care of the direct industrial consumers?

A. Why, not at all, because I previously testified that

we wouldn't have built a line up here to serve them in the first place.

Q. You wouldn't have built a line to the Colorado Fuel & Iron to serve it if you hadn't had the Denver load, would you?

A. That's what I just said. Pipe lines are built to serve combinations of industrial and domestic business, but the long lines are really built solely to serve the big industrial consumers particularly when you build your line right into a coal mining territory.

Q. Yes, about the only place where a line just for the benefit of large industrial consumers would be really feasible would be where the industrial consumer is located in some proximity to the source of supply like the American Smelting & Refining Company refinery there in the Amarillo field?

A. Yes, or where the industrial consumers are located at a point more remote from any source of fuel than the gas field.

Q. How long would it take you to make a computation according to your formula there as to what size you would need if you just had the direct industrial customer load?

A. Well, in designing a line you have to design a line to serve this business economically, and I don't believe I can design a line as a companion to this line which could serve the direct sale gas economically.

Q. Of course, you could do it from an engineering standpoint leaving out the economic phases of it, couldn't you?

A. Well, we have to consider the economics of it in the engineering design.

Q. I was just asking the question from an engineering standpoint; just exactly from an engineering standpoint, just exactly what size line you would need to take care of this direct-sale industrial load. How long would it take you to compute that?

A. I can give you approximately a size of line which would carry the load under like pressure conditions of this line. That's no job. I can read that off a piece of paper, but it wouldn't design the line. Roughly speaking, it would be a 12-inch line.

Q. A 12-inch line would take care of all the peaks of the complete direct industrial load?

A. It could be made to do so.

Q. It could be made to do so?

A. Yes. I'm just giving you an approximate size of line. Now, there is a great deal more to a pipe line than the diameter of a pipe.

Q. In other words, it could be made to do so. By that you mean that there could be enough pressure put on that small line to push the gas through?

A. It is a matter of how much power you use.

Q. Yes, but, of course, it would be uneconomical to apply the pressure that would be necessary to apply in that 12 inch line?

A. No, I don't think so, but the whole business would cost more to get the gas to Pueblo, for instance, than the Colorado Fuel & Iron would be willing to pay for it.

Q. How many compressor stations would you have to have? Would you have to have more than you do now?

A. I don't know.

Q. It would take quite a bit more compressing stations to build up the pressures necessary to push gas through that 12 inch line, wouldn't it?

A. It might. It's not quite as simple as that.

Q. Well, then, in your opinion would it be necessary to have more compressing stations than you have now, or less?

A. Probably more.

Q. Of course, if you made that a 20 inch line, it would be better from an operating standpoint, wouldn't it?

A. I don't know as it would.

Q. Well, it would, wouldn't it? Would it?

A. Of course, if you made the line big enough you wouldn't have to pump the gas at all, you could run it right from the wells. It is easier to run that kind of a line than one with pumping stations, to be sure.

Q. Of course, you would want to build a line which would be most practical from an engineering standpoint. Would a 20 inch line be more practical from an engineering standpoint than a 12 inch line?

A. Not for that business.

Q. Would you recommend a 12 inch line or a 20 inch line?

A. Well, it certainly wouldn't be a 20 inch line, and as

I state, a 12-inch line—what it would be would be the result of a considerable economic study as to what is the best kind of line to build to handle that business.

Q. You wouldn't want to recommend at this hearing here at this time without additional study that a 12-inch line would take care of this industrial load, would you?

A. No, I wouldn't be willing to recommend any size of line without a very considerable study and probably my indications at the present time would be not to build a line, if that is all the business you had.

The Trial Examiner: The first of that is true, isn't it, Mr. Rhodes? You wouldn't build a line for the sole purpose of serving resale customers; that is, the average resale customer, we'll say, that has a large domestic load and a very few industrial customers?

The Witness: Well, that isn't so clear, because the total volume of business is enough so that you can get the advantage of the big increase in capacity with a small increase in pipe diameter. You see, roughly speaking, it would only cost about 50 per cent more for a 20-inch system than for a 12-inch system, and it will carry two to three times as much load.

The Trial Examiner: Yes, but what I mean is: If you were to connect no industrial customers at all, you would give it considerable study before you would construct a pipe line such as this pipe line?

The Witness: It is very difficult to justify any long pipe line purely for domestic consumers. You don't get enough use out of the capacity that you have to provide. Ordinarily, you wouldn't get on the average more than 25 or 30 per cent use of that capacity which makes it difficult to justify it.

The Trial Examiner: You may proceed, Mr. March.

By Mr. March:

Q. Mr. Rhodes, you have both industrial consumers and domestic consumers on your resale load, do you not?

A. Yes.

Q. Now, let's see, let's turn to Page 7. You state here

regarding suction pressures—I'll read the statement for the record here on Page 7:

"In the Divins station, 3,000 horsepower is sufficient for resale gas until 1941 when one 600-horsepower unit in the present building is required to offset falling suction pressures. A second 600-horsepower unit is required to be installed in the present building in 1942. In 1943 three more such units are required in a new building in anticipation of a 150-pound suction pressure."

Now, I know* that we have discussed the suction pressure to a limited extent heretofore, but I want to know how you arrived at your conclusion that by 1943 the suction pressures would reach 150 pounds.

A: It is purely a matter of judgment in watching the way gas fields have been operated, that it would be necessary to have that pressure pulled down to about 150 pounds in the near future to make it easily possible to handle the gas field. I reached that conclusion myself and later talked it over with Max Watson and found that he had reached the identical conclusion at almost the same identical time. It is a matter of having enough difference in pressure between your station and your operating wells to have a convenient means of controlling and dispatching the variations in your load.

Q. If your suction pressure is going to be 150 pounds by 1943, what would be your well pressures?

A. I don't know.

Q. You didn't give that any consideration?

A. No.

Q. That has nothing to do, then, with the declining pressures of the field?

A. Only indirectly.

Q. Well, how, indirectly?

A. Well, as the field pressures go down, naturally the pressure at the compressor stations go down, but I have found it in my experience in watching the behavior of certain other fields with big wells in it, like this field, that it is rather difficult to maintain such pressures of very much over a third of the well pressures and still have the ability to control properly the delivery of gas into the pipe lines.

Now, this 150 pounds which I have taken here is considerably over a third of the virgin pressure of the wells.

Q. What field have you got in mind?

A. I had in mind the Monroe gas field in Louisiana which is a field very similar to this in that it has large wells of 15 or 20 million feet a day, and also the Richland gas field which is near the Monroe gas field and has since been exhausted. In the case of those fields, at the present time with the average well pressures probably—oh, four or five hundred pounds, the compressor stations are running with suction pressures of a hundred pounds or less.

Q. The well pressures are over 400 pounds and the suction pressure less than 100 pounds?

A. Yes.

Q. What has been your experience in observing pressures in the Panhandle field?

A. What?

Q. What has been your experience and your observations in the Panhandle field, the relation between the well pressures and the suction pressure?

A. I haven't made any particular study of that, except as I say, I reached certain conclusions that Mr. Watson completely confirmed when I talked with him about it.

Q. In other words, you are not familiar with the behaviors of the pressures in the Panhandle field?

A. I haven't studied them in detail. I have been familiar with the Panhandle field for more than ten years, but I haven't been operating in the field.

Q. Do you know what the present suction pressure is at the Bivins station?

A. Oh, it varies. I think they are able to keep it up to pretty close to 250 pounds right now.

Q. Do you know what the present average well pressures are, approximately?

A. Whose well pressures?

Q. The present average well pressures in the Panhandle acreage—I mean, the Canadian River acreage in the Panhandle field.

A. Something over 350 pounds.

Q. You don't have in mind the exact figure?

A. Not the exact figure.

Q. If 150 pounds suction pressure would be reached by 1943, then how long would it take to reach, and what will happen by 1947?

A. Why, I think the pressures can probably be held at 150 pounds with increasing difficulty. It is difficult to operate properly unless you have a large margin of pressure between the wells and the delivery points at your compressor stations and they have been working under too narrow a margin recently.

Q. How low do the suction pressures have to go before it is uneconomical to operate?

A. I don't know. I haven't figured that out.

Q. You haven't given that any consideration?

A. No.

(Vol. XXIII, pp. 3210-3219.)

15. Volume Sales and Revenues of All Gas and of Resale Gas Only, Colorado Interstate, 1928 to 1939, Inclusive, and As Estimated, 1940 to 1947, Inclusive.

Lusk in his Exhibit 43 and in his testimony with respect thereto (Vol. VI, pp. 751-758, 769-778; Vol. IX, pp. 1249, 1250) gave a complete statement of the volume of all kinds of gas sold by both Canadian and Colorado Interstate companies off the Denver line and the revenues derived therefrom 1928 to 1939 inclusive. Beardsley, superintendent since June, 1928 of that department of Colorado Interstate's business charged with gas measurements and the estimates of future sales and gas engineering work, (Vol. VII, pp. 942, 943) assembled the data which FB&D put together as Exhibit 56. In this exhibit and Beardsley's testimony with respect thereto (Vol. VII, pp. 942-1019) are shown estimated future volume sales and revenues therefrom from both companies off this line for the years 1940 to 1947 inclusive. Each exhibit shows volumes on the pressure bases specified in the sales contracts. Other exhibits, some offered by the companies and some by the Commission's witnesses, adverted to past and future volume sales and revenues. The Commission's exhibits do not express the volumes on the contract pressure bases but use 14.65 lbs. per square inch absolute. When the volumes in the several exhibits are reduced to a common pressure basis there is no real con-

dict. These additional exhibits are: 5, 59, 60, 63, 72, 138, 138-A, 226, 226-A, 262, 290, 293, 300 and 307.

Past and estimated future volume sales of Colorado Interstate may be shown as follows:

Mcf. at Contract Pressure Base.

Resale

Year Ended Dec. 31	Resale— Domestic	Resale— Industrial	Direct Sales— Industrial
Actual	(1)	(2)	(3)
1928 (7 mo.)	1,159,569	36,695	2,521,748
1929	3,534,927	776,291	8,312,075
1930	4,765,312	2,104,748	8,364,550
1931	5,304,294	3,059,558	7,891,809
1932	5,596,415	3,291,578	6,999,294
1933	4,794,896	2,474,304	7,591,289
1934	4,526,432	2,898,583	8,121,103
1935	5,283,663	3,446,361	8,188,473
1936	5,813,113	4,172,804	11,944,737
1937	6,588,670	4,869,301	11,535,110
1938	6,617,591	4,436,487	9,504,897
1939	6,818,497	4,779,576	11,663,832

Estimated Future

1940	7,575,000	4,880,380	11,018,800
1941	8,073,000	5,417,400	11,873,800
1942	8,413,000	5,604,500	11,898,800
1943	8,718,000	5,771,600	11,523,800
1944	9,021,500	5,940,200	11,548,800
1945	9,322,500	6,106,300	11,573,800
1946	9,322,500	6,106,300	11,573,800
1947	9,322,500	6,106,300	11,573,800

Column 1 is found as Column 7, Statement A-5, Exhibit 56.

Column 2 is found as Column 8, Statement A-6, Exhibit 56.

Column 3 is found as Column 3, Statement A-4, Exhibit 56.

The only apparent conflict between the above stated volume sales and that shown in any other exhibits is on Schedule 1 of the Commission's exhibit 293 prepared by the witness, O'Connor. There he estimates for the year 1941 *direct* sales by Colorado Interstate to industrial customers in the total amount of 11,540,700 Mcf. on a 14.65 lbs. per square inch absolute basis. Beardsley, for the company, estimated, as shown above, direct sales to industrial customers for that year in the total amount of 11,873,800 Mcf. on the pressure bases specified in the contracts. The variation in the pressure bases accounts in part for the difference in volume figures. The difference in these two estimates is further accounted for in this way: Beardsley included in his figure the amount expected to be sold to the Municipal Power plant at Colorado Springs as an industrial customer, which it is under the contract between the Colorado Interstate and the City of Colorado Springs, (see Exhibit 7-F, pp. 3, 4) whereas O'Connor included this sale in the estimated amount of 470,000 Mcf. on a 14.65 basis as a sale for resale to utilities.

Hendee, general manager of both Canadian and Colorado Interstate, stated that Beardsley for a long time past had been making estimates in the ordinary course of his duties with the companies as to future sales. Such estimates were used in making additions to the compressor stations and other plant and for corporate purposes wholly unconnected with any rate case. He stated that on the basis of such estimates as to future volumes made by Beardsley in the past Canadian had installed a new compressor station at Dalhart and enlarged its existing station at Bivins and that Colorado Interstate had made additions to its stations at Canyon and Devine (Vol. VIII, pp. 1083-1085). From the several exhibits above enumerated, particularly Beardsley's 56 and Lusk's 43, the following statement of Colorado Interstate's revenues from gas sales for past years and as estimated 1940 to 1947 inclusive and miscellaneous rentals may be made as follows:

Calendar Year	Resale Gas			Rentals
	Domestic Gas	Industrial Gas	Direct Sale Gas	
	(1)	(2)	(3)	(4)
Actual				
1928(A)	\$ 462,770	\$ 8,006	\$ 358,785	453
1929	1,404,805	146,432	1,086,425	1,672
1930	1,829,854	338,588	1,105,289	4,199
1931	1,955,392	472,647	971,640	5,702
1932	2,042,631	505,479	858,480	5,150
1933	1,738,060	377,686	934,408	5,350
1934	1,630,312	413,875	980,293	5,493
1935	1,834,747	470,776	987,121	5,520
1936	1,972,331	565,588	1,406,657	6,818
1937	2,218,471	652,901	1,343,411	6,382
1938	2,224,598	607,144	1,083,395	8,088
1939	2,297,015	641,368	1,370,849	8,787
Estimated				
1940	2,556,900	645,743	1,276,525	8,800
1941	2,724,975	699,282	1,389,266	8,800
1942	2,841,775	724,277	1,392,016	8,800
1943	2,945,775	747,492	1,340,566	8,800
1944	3,057,500	770,243	1,343,316	8,800
1945	3,192,600	789,574	1,346,066	8,800
1946	3,192,600	789,574	1,346,066	8,800
1947	2,192,600	789,574	1,346,066	8,800

Column 1 is found as Column 7, Statement B-5, Exhibit 56.

Column 2 is found as Column 8, Statement B-6, Exhibit 56.

Column 3 is found as Column 3, Statement B-4, Exhibit 56.

Column 4 for the years 1928 to 1938 inclusive corresponds to Line 4, Statement C-1, Exhibit 43 and the figures therein for 1939 to 1947 inclusive were given in testimony by the Witness, Lusk, in Vol. XLIX, p. 6737, et seq. There he stated that the rentals in respect to sales of gas of all kinds would be as shown in Column 4 for the years 1940 to 1947 inclusive and that in respect to resale gas alone the figures would be for 1939, \$9,843 and for each of the years 1940 to 1947 inclusive they would be \$9,856.

16. Peak Load Obligations and Line Capacity of the Denver Line as Found Through the Winter 1939-40, and Estimated Through 1947, and Estimated Necessary Additional Facilities.

The Denver Line, as the evidence already abstracted shows, was designed and constructed by FB&D. The witness, Rhodes, as chief engineer, checked each item of the design. (Vol. XXII, pp. 3149, 3150. Ex. 98, p. 1.) It was necessary to estimate volumes, peak loads and line capacity prior to construction. (Vol. IX, p. 1191.) Preconstruction estimates have been closely borne out. (Vol. IX, pp. 1194, 1195.) For this case he took the record through the winter 1939-1940 and estimated, first, the peak load obligation; second, the line capacity, with estimated additional compressors; and then compared the two through 1947. This study was admitted herein as Exhibit 66. For such study he considered all volumes, loads and deliveries of the Denver Line north of the Bivins compressor station.

As to peak loads he said: "I took the figures that are shown by the books and records of the company as having been delivered to the various consumers on the peak days." (Vol. IX, p. 1181.) He expressed all peak load obligations in "cubic feet per day at the contract basis pressures provided for in the several gas sales contracts. The average base pressure closely approximates 13.0 pounds per square inch absolute." (Ex. 66, p. 1.) These contract bases are shown in Exhibit 59 and, of Colorado Interstate's contracts, six are at 13.2; three are at 12.9; and two, for negligible volume sales; namely to Arkansas Valley Natural Gas Company and to the United States Department of the Interior, are at 12.25 and 12.4 respectively. When weighted for volumes the average approximates 13.0, and the amount of any individual contract base does not vary therefrom by more than 1% to 2%. (Vol. IX, pp. 1180, 1181.)

For this study he also considered the priority of domestic over industrial gas specified in each of the sales contracts already abstracted above. No difficulty was encountered in separating out all direct sales of industrial gas, namely; to; American Crystal Sugar Company, The Atchison, Topeka and Santa Fe Railway Company, The City of Colorado Springs for its power plant, The C. F. & L.

The Colorado Portland Cement Company and the United States Government for its Fort Lyon Hospital and for the helium plant at Thatcher. (Ex. 59.) He was also able to separate out the gas sold to distributing companies for resale to special industrial customers, all these being large consumers with daily meter readings available. As to gas sold to the distributing companies for resale to small industrial consumers, called regular industrial customers, he included the amount sold them along with gas sold to domestic users, since the amounts were small and none of them had daily meter readings. (Ex. 66, p. 1.)

The final result of his study is presented as Table N, Page 21 of Exhibit 66, as follows:

Development of Peak Load Obligations and Line Capacities of the Denver Pipe Line.

Mcf. Per Day at Contract Pressure Base

Calendar Year	Peak Load Obligations Domestic and Regular Industrial	Total All Classes of Gas	Line Capacity Net With Spare Engines Out	Provided Gross With All Engines Running
Actual				
1929	24,454	58,061	70,000	80,000
1930	44,258	89,578	70,000	80,000
1931	56,180	102,737	90,000	108,000
1932	59,025	104,219	90,000	108,000
1933	53,497	91,439	90,000	108,000
1934	48,926	95,974	90,000	108,000
1935	52,266	94,799	90,000	108,000
1936	56,272	113,096	90,000	108,000
1937	63,514	118,563	90,000	108,000
1938	67,366	105,916	90,000	108,000
1939	73,540	133,771	90,000	108,000
1940	79,929	140,926	90,000	108,000
Estimated Future				
1941	89,664	146,996	100,000	124,000
1942	94,092	151,711	100,000	124,000
1943	98,068	155,943	108,000	125,000
1944	102,027	160,161	108,000	125,000
1945	105,952	164,341	108,000	125,000
1946	105,952	164,341	108,000	125,000
1947	105,952	164,341	108,000	125,000

As this same method of determining the peak load obligations and their significance underlies the evidence hereinafter abstracted under the section entitled "Apportionment of Property and Expenses between Direct and Resale Gas, Denver Line" (Rhodes' Exhibit 346, "Methods of Apportioning Costs of the Producing and Gathering Facilities of Canadian River Gas Company and of the Denver Line Between Resale Gas and Direct Sale Gas, 1928 to 1947 Inclusive"), we do here abstract the method and intermediate steps employed in arriving at the results set forth in Table X.

In order to show the effect of weather on the domestic demand, he took the two warm months in the year 1938, during which period the average daily demand was 9,300,000 cubic feet. He then took the two coldest months of the winter of 1938-39, during which period the average daily demand was 32,400,000 cubic feet, the difference between the two average daily demands being 23,100,000 cubic feet, accounted for by cold weather.

The use of gas for house heating begins in some form when the mean temperature falls below 65 deg. F., and such use increases practically in direct proportion as the mean temperature falls below 65 deg. F. The amount by which the mean temperature in any day falls below 65 deg. F. is called the "degree day deficiency" for that day. For instance, if the mean temperature in any day is 55 deg. F., there are 10 degree-days deficiency, and when the mean temperature is 45 deg. F. there are 20 degree days deficiency (p. 1154). The sum of the daily degree days deficiency during any period is known as the "total degree days deficiency" for that period. In the Exhibit "degree days deficiency" is abbreviated to: "Ddd".

He determined that for the two warm months the average temperature depression Ddd per day was zero and for the two cold months there was 35 Ddd, and by dividing 35 into 23,100,000 he arrived at 660,000 cubic feet per Ddd as representing the increased load due to depression in temperature for one day. He then (p. 1155) developed the maximum domestic obligation for the winter 1938-39 in Table B as follows:

Cubic Feet

- (a) Average daily demand in two cold months at an average temperature depression of 35.0 Ddd. 32,400,000
- (b) Increase in daily demand at 15.0 deg. F. below zero with a total temperature depression of 80.0 Ddd, namely 45.0 Ddd, more than the above average, computed at 660,000 cu. ft. per Ddd. 29,700,000
- (c) Total estimated daily demand for domestic gas from the Denver line at a mean temperature of 15.0 deg. F. below zero 62,100,000

(p. 1156)

The maximum demands for the extreme weather in the several areas are shown in Table C, as follows:

	Mean Temperature on Coldest Day (Deg. F.)	Estimated Domestic Load On Such a Day Cu. Ft.)
--	--	---

(a) Denver Area	—14 deg.	42,157,000
(b) Colorado-Wyoming area	—20	10,775,000
(c) Colorado Springs Area	—16	3,251,000
(d) Pueblo Area	—10	2,230,000
(e) Arkansas Valley Area	—10	1,304,000
(f) New Mexico Area	—6	531,000
(g) Texas Area	—6	1,483,000

Total 61,731,000

(p. 1157)

The growth in domestic obligations of the Denver line was determined winter by winter by calculations identical with those above described, and are summarized year by year in comparison with the domestic sales as shown in Table D, as follows:

"In New Mexico and Colorado"

In Texas

Calendar Year	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day
1929	3,534,927	21,336,000	127,311	1,206,000
1930	4,765,312	37,017,000	160,243	1,605,000
1931	5,304,294	47,931,000	147,776	1,633,000
1932	5,596,415	49,091,000	129,437	1,338,000
1933	4,811,485	44,072,000	128,942	1,320,000
1934	4,566,300	40,749,000	93,120	1,206,000
1935	5,327,345	43,297,000	126,555	1,310,000
1936	5,860,461	45,241,000	129,898	1,237,000
1937	6,638,703	49,972,000	138,401	1,263,000
1938	6,669,918	54,984,000	129,293	1,269,000
1939	6,874,843	60,248,000	145,962	1,483,000
1940	7,628,500(A)	66,148,000	122,900(A)	1,245,000

Note: (A) These figures estimated."

(p. 1158)

Table E shows the extent to which domestic peak load obligations have increased in the past in comparison with the increase in annual volume of domestic gas sold, as follows:

	"New Mexico and Colorado"	Texas
Peak Load Obligations Cu. Ft. per Day		
1939	60,248,000	1,483,000
1929	21,336,000	1,206,000
Increase in 10 years	38,912,000	277,000
Annual Volumes Mcf.		
1939	6,874,843	145,962
1929	3,534,927	127,311
Increase in 10 years	3,339,916	18,651
Increased Peak Load Obligation Cubic feet per day per Mcf. An- nual Sales	11.65	14.85"

(p. 1160)

Table F shows such future peak load obligations based on the estimated future volumes submitted by Witness Beardsley, as follows:

In New Mexico and Colorado			In Texas	
Calendar Year	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day
1939	6,874,843 (A)	60,248,000 (A)	145,962 (A)	1,483,000 (A)
1940	7,628,500 (A)	66,148,000 (A)	122,900 (A)	1,245,000 (A)
1941	8,127,440	74,841,000	123,500	1,149,000
1942	8,468,350	78,812,000	124,000	1,157,000
1943	8,774,300	82,377,000	124,650	1,167,000
1944	9,078,700	85,923,000	125,200	1,175,000
1945	9,380,600	89,440,000	125,800	1,184,000
1946	9,380,600	89,440,000	125,800	1,184,000
1947	9,380,600	89,440,000	125,800	1,184,000

Note: (A) These figures from Table D."

(p. 1161)

As an illustration of the method used in finding the future obligations shown in Table F, he referred to the 1941 peak load obligation in New Mexico and Colorado, where the annual sales are estimated to increase 1,252,597 Mcf. over 1939, whereas the increased peak load obligation at the rate of 11.65 cubic feet per Mcf. annual sales is thus 11.65 times 1,252,597, which is 14,593,000 cubic feet. This, added to the 60,248,000 cubic feet, the peak load obligation for 1939, results in 74,841,000 cubic feet as the 1941 peak load obligation. (p. 1161.)

As to industrial peak load obligations, he also took the months of January and February 1938-39. These peak loads are largely controlled by industrial activity and the extent to which the use of gas is curtailed or shut off to insure the domestic supply. The industrial load is commonly in excess of the load that occurs at any one time because of non-coincident maximum demands. The winter months of January and February were used in the study because these are the months in which the domestic demands are the greatest, and the obligation so determined reflects the maximum requirements of the industrial consumers to be curtailed as may be necessary in extremely cold weather.

The actual peak requirements of special industrial resale gas and direct sale gas were determined from the daily meter readings, and the sum of the individual peaks for the several consumers in January and February was taken as the total obligation. The peak loads for regular resale industrial gas, for which no daily meter readings were available, were estimated at 2% of the total billings for (p. 1162) January and February.

Table G shows the distribution of the industrial peak obligations to the various areas served (p. 1163).

The industrial peak load obligations were then determined year by year from 1929 to 1940, inclusive, in the manner above described (p. 1164), and Tables H, I and J show, in like manner as is shown with respect to domestic gas, sales volumes each year, and the peak load obligations in January and February of each year, in parallel columns for the years 1929 to 1940:

In recent years the resale industrial gas has been running approximately one-half regular industrial and one-half special industrial (p. 1165). It was assumed that each of these two classes of gas would represent substantially one-half of the volumes of sales. It was also assumed, as past experience had demonstrated, that the relation between peak load obligations and annual sales would continue in the future.

In the case of regular industrial gas, it is shown by Table H that the average annual sales for the years 1937, 1938 and 1939 were 2,363,061 Mcf. per year, and that the average of the peak load obligations was 11,279,000 cubic feet per day, so that the peak load obligations on account of regular industrial gas sales have been 4.77 cubic feet per day for each Mcf. of gas sold during the year. Accordingly, the future peak load obligations for regular industrial gas were estimated as being 4.77 cubic feet per Mcf. per year (p. 1166).

As to peak load obligations year by year, and annual sales of special industrial gas, Table H shows a somewhat erratic relationship in 1939, when the cement plant near Fort Collins was given permission to take gas in January and February. Accordingly, the years 1936, 1937 and 1938 being free from such abnormality, were taken as the guide.

During these years, the average annual sales amounted to 2,257,479 Mcf., and the average of the peak load obligations amounted to 6,876,000 cubic feet per day. So that for each Mcf. of special industrial gas sold in those years, there was an average peak load obligation of 3.05 cubic feet.

On such basis Table K shows year by year the future peak load obligations, calculated as follows: (p. 1167)

Calendar Year	"Regular Industrial Gas		Special Industrial Gas	
	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day	Sold During Year Mcf.	Peak Load Obligations Jan. and Feb. Cu. Ft. Per Day
1940	2,471,940	11,973,000(A)	2,471,940	7,655,000(A)
1941	2,740,980	13,074,000	2,740,980	8,380,000
1942	2,835,075	13,523,000	2,835,075	8,647,000
1943	2,919,150	13,924,000	2,919,150	8,903,000
1944	3,004,000	14,329,000	3,004,000	9,162,000
1945	3,087,600	14,728,000	3,087,600	9,417,000
1946	3,087,600	14,728,000	3,087,600	9,417,000
1947	3,087,600	14,728,000	3,087,600	9,417,000

Note: (A) Actual."

As to direct sales gas during the three years 1936, 1937 and 1939, as shown in Table J the sales had been relatively stable, except that in the years 1936, 1937 and 1939 they were roughly 50% higher than in prior years. During those three years the average annual volume sales was 11,714,560 Mcf., and the average peak load obligation was 48,047,000 cubic feet per day. 1940 was out of line on account of the cement plant at Portland taking gas during January and February (p. 1168). The estimates for 1942 and 1943 differ so little from the average sales in 1936, 1937 and 1939 that the future obligations for direct sales may reasonably be taken at the average obligation during these three years of 48,047,000 cubic feet per day.

In Table L, the combined peak load obligations 1929 to 1947 are shown, as follows:

Calendar Year	"Colorado and New Mexico Resale		Texas Resale		Direct Sale to Consumer
	Domestic and Regular Industrial	Special Industrial	Domestic and Regular Industrial	Special Industrial	
Actual					
1929	22,947		1,507		33,607
1930	42,270	6,696	1,988	545	38,079
1931	54,055	8,791	2,125	371	37,395
1932	57,180	5,059	1,845	474	39,661
1933	51,738	5,274	1,759	493	32,175
1934	57,430	9,485	1,496	442	37,121
1935	50,609	5,267	1,657	473	36,793
1936	54,572	6,582	1,700	724	49,518
1937	61,757	6,756	1,757	851	47,442
1938	65,677	7,289	1,689	871	30,390
1939	71,606	12,067	1,934	983	47,181
1940	78,121	7,655	1,808	858	52,484
Estimated Future					
1941	87,915	8,360	1,749	900	48,072
1942	92,335	8,647	1,757	900	48,072
1943	96,301	8,903	1,767	900	48,072
1944	100,252	9,162	1,775	900	48,072
1945	104,168	9,417	1,784	900	48,072
1946	104,168	9,417	1,784	900	48,072
1947	104,168	9,417	1,784	900	48,072

(p. 1169)

In his study the pipe line capacities referred to are the continuous flow capacities with load distributed along the line pro rata with the 1939 peak load obligations (p. 1170). Pipe line capacities were determined with all compressors in service, and with the largest engine in each station out of service. His calculations were based on the full use of the power capacity of the engines in service, which is sometimes not wholly available on account of limitations of compressor cylinder diameters. In calculating the gross capacity of the system with all engines in operation in 1939 geographic distribution of the total combined peak load

obligations was used. In determining the net capacity of the system with the spare compressor equipment out of operation, the 1939 geographic distribution of the domestic and regular industrial peak load obligations was used.

In 1928 when the Denver Line was first completed, its flow capacity was fixed by the power in the Canyon Station. Three 1,000 h.p. units were installed. The Bivins Station of three 1,000 h.p. units was ample to furnish any gas into the line that could be passed through the Canyon Station.

In the fall of 1930 the Clayton Station, containing three 1,000 h.p. units, and the Devine Station of two 1,000 h.p. units, were placed in operation. The line capacity was thus increased, but the Bivins Station was still ample (p. 1171).

In 1939 it was necessary to increase the capacity of the Bivins Station by the installation of a 600 h.p. unit. This was necessary to meet changing field conditions, and the line capacity was not increased.

In 1940 the Dalhart Station was constructed with four 600 h.p. units, and later another unit was added. Canyon Station was reinforced by the addition of a 600 h.p. unit, and the Devine Station by the addition of two 625 h.p. units.

A further step in the development of capacity will be necessary with increasing loads. The critical section of the line is the Devine-to-Denver section, which will require a booster station near Colorado Springs to secure any increase in line capacity. A station of 1800 h.p. in three units will be required, and an additional 600 h.p. unit at Canyon.

As the field pressures drop, additional equipment will be required at Bivins. With a suction pressure of 150 pounds per square inch gauge, a total capacity of 6600 h.p. will be required (p. 1172).

♦ The gross and net flow capacity of the various stages of development were determined as shown on Table N above (p. 1173).

The following Table M (p. 20 of the Exhibit) includes the estimated necessary additional facilities which will be required to meet the estimated future peak obligations:

Stage and Date Completed	Compressor Stations		"Pipe Line Flow Capacity"	
	Name	Total HP.	Net with Spare Engines Out	Gross with All Engines Operating
1st—1928	Bivins	3,000		
	Canyon	3,000	70,000	80,000
2nd—1930	Bivins	3,000		
	Clayton	3,000		
	Canyon	3,000		
	Devine	2,000	90,000	108,000
3rd—1941	Bivins	3,600		
	Dalhart	3,000		
	Clayton	3,900		
	Canyon	3,600		
	Devine	3,200	100,000	124,000
4th—Future	Bivins	6,600		
	Dalhart	3,000		
	Clayton	3,000		
	Canyon	4,200		
	Devine	3,200		
	Colo. Springs	1,800	108,000	125,000

Certain of the working papers, namely, Degree Days, January 25 to 26 inclusive, 1939 and 1940, for Denver, Colorado Springs, Pueblo and La Junta, as shown by the Weather Bureau and used in the foregoing studies, were introduced by the Commission as Exhibits 61 and 62.

17. Peak Load Obligations and Line Capacity of an Assumed Denver Line for Resale Gas Only, as Estimated Through the Winter 1939-1940, and as Estimated Through 1947, and Estimated Necessary Additional Facilities.

The same witness Rhodes, using the same methods as used in the foregoing study for all gas, developed in his Exhibit 98 the following results for an assumed 20 inch line that would take care of resale gas only:

Table G

Peak Load Obligations and Line Capacities of a
20 Inch Denver Pipe Line for Resale Gas Alone.Mcf. per Day at Average Sales Contract Pressure
Base of 13.0 Pounds Absolute.

Year in Which Peak Occurs in January or February	Peak Load Obligations		Saleable Capacity Provided	
	Domestic and Regular Industrial	Total Resale Gas	Net with Spare Engines Out	Gross with All Engines Running
Actual				
1929	24,454	24,454	45,000	45,000
1930	44,258	51,499	58,000	62,000
1931	56,180	65,342	80,000	87,000
1932	59,025	64,558	80,000	87,000
1933	53,497	59,264	80,000	87,000
1934	48,926	58,853	80,000	87,000
1935	52,266	58,006	80,000	87,000
1936	56,272	63,578	80,000	87,000
1937	63,514	71,121	80,000	87,000
1938	67,366	75,526	80,000	87,000
1939	73,540	86,590	80,000	87,000
1940	79,929	88,442	96,000	103,000
Estimated Future				
1941	89,664	98,924	96,000	103,000
1942	94,092	103,639	96,000	103,000
1943	98,068	107,871	108,000	111,000
1944	102,027	112,089	108,000	111,000
1945	105,952	116,269	108,000	111,000
1946	105,952	116,269	108,000	111,000
1947	105,952	116,269	108,000	111,000

(Exhibit 98, p. 10).

He also developed the flow capacities of such a 20 inch Denver Line for resale gas alone and the estimated additional necessary facilities, as follows:

Table F

Flow Capacities of a 20 Inch Denver Pipe Line
for Resale Gas Alone.Mcf. per Day at Average Sales Contract Pressure
Base of 13.0 Pounds Absolute.

Approximate Pipe Line Flow Capacity

Stage of Expansion	Compressor Stations		Line Input		Saleable Output	
	Name	Total H.P.	Net	Gross	Net	Gross
Initial	Bivins	3,000	45,100T	45,100T	45,100T	45,100T
			43,600C	43,600C	43,600C	43,600C
First	Bivins	3,000	58,900T	62,300T	58,400T	61,500T
	Canyon	3,000	56,900C	60,200C	56,400C	59,400C
Second	Bivins	3,000	81,300T	89,100T	80,000T	87,100T
	Clayton	3,000	78,500C	86,100C	77,200C	84,100C
	Canyon	3,000				
	Devine	2,000				
Third	Bivins	3,000	99,600T	107,200T	96,400T	102,500T
	Dalhart	3,000	96,300C	103,700C	93,100C	99,000C
	Clayton	3,000				
	Cimarron	1,800				
	Canyon	3,000				
	Apishapa	1,800				
	Devine	3,200				
	Springs	1,800				
Final	Bivins	6,000	112,000T	116,700T	107,600T	110,700T
	Dalhart	4,200	108,300C	112,900C	103,900C	106,900C
	Clayton	4,200				
	Cimarron	3,000				
	Canyon	3,000				
	Apishapa	3,000				
	Devine	3,200				
	Springs	1,800				

Notes: T These flow capacities are inputs to Canadian's pipe line at Bivins for fuel and all sales from the pipe line north of Bivins.

C These flow capacities are inputs to Colorado Interstate's pipe line at Clayton for fuel and all sales from the pipe line north of Clayton.

(Exhibit 98, p. 8).

One of the working papers used by Rhodes and entitled "Peak Month Deliveries at Clayton, New Mexico, for Colorado Interstate Gas Company's Requirements of Gas Sold for Resale, 1928, to 1947 Inclusive", showing amounts at 16.4 pounds base pressure and being commensurate with the figures set forth in Table H of Exhibit 98, was introduced as Exhibit 99. (Vol. XXII, p. 3161, et seq.)

18. Original Cost of Colorado Interstate's Portion of the Physical Properties of the Denver Line to December 31, 1939, and as Estimated From 1940 to 1947, Inclusive.

For Colorado Interstate there was introduced, through the witness Lusk, Exhibit 67 entitled "Original cost of the Denver Pipe Line Properties, December 31, 1928 to 1939, Inclusive". It shows such cost for the Canadian River Gas Company as well as Colorado Interstate. Here we deal with the original cost of the physical properties of the Denver Line belonging to Colorado Interstate; that is, that part of the line north of Clayton Junction, but this exhibit shows total original cost of Canadian River's portion of the line in the amount of \$4,028,196 as of December 31, 1939. It is also to be noted that here we deal with the physical properties only of Colorado Interstate's portion of said line, leaving for a subsequent section the abstracting of the evidence as to the cost of Colorado Interstate's contracts.

The original cost of the physical properties of Colorado Interstate's portion of said line at December 31, for each of the years 1937, 1938 and 1939, as set forth in Statement 2 of Exhibit 67, is as follows:

Original Cost of Denver Pipe Line, Properties at
December 31, 1928 to 1939, Inclusive.

Item No.	Account Nos. (Company)	Description	1937	1938	1939
Owned by Colorado Interstate Gas Co.					
1	218; 219; 221; 223; 224; 227	Compressing Stations)	\$ 1,563,211	\$ 1,629,709	\$ 1,617,612
2	218; 220; 226	Transmission Lines	9,505,640	9,509,222	9,499,149
3	218; 222; 225; 227	Measuring Stations	165,901	165,583	160,172
4	218; 219; 223; 227	Other Structures and Equipment	60,845	72,565	79,765
5	255	Telephone System	151,725	151,779	151,764
6	249; 253; 257	General Property	118,638	125,086	132,630
7	Total		\$11,565,960	\$11,654,844	\$11,641,092
8	Adjustment for Items Charged to Expense which are Prop- erty Capital		201,906	244,103	284,806

9 Adjustment for
General Con-
struction Costs
Applicable to
Net Property
Additions and
Capital Items
Expensed

143,845 153,699 155,244

10 Total Original
Cost of Colo-
rado Interstate
Gas Co. Prop-
erty

\$11,911,711 \$12,052,646 \$12,081,142

*We show here original cost at December 31 for the years 1937, 1938 and 1939 only. Future Addi-
tions are shown infra.

The figure \$11,641,092, being the total original cost at December 31, 1939, before the adjustments itemized in Items 8 and 9 supra, corresponds with the actual figure on the books of the company, as both Commission and respondent's accountants agree, except for an item of \$14,334.51. The Commission's witness Schutte, on being examined by Commission's counsel with respect to Lusk's Exhibit 67, and particularly Statement 2, said that he had compared it with the books of the company as of December 31, 1939, and the only difference was that one item, which he explained:

"A. In the transmission group of accounts, which is Item 1 of Statement 2 of Exhibit 67, Mr. Lusk included the cost of five farms that are owned by the Colorado Interstate Gas Company and which are carried on its books and financial statements as other physical property." (Vol. LXV, p. 9389.)

There was then introduced by the Commission, through Schutte, Exhibit 195 entitled "Colorado Interstate Gas Company—Comparison of Original Cost of Denver Pipe Line Properties as of December 31, 1939, per Company Books with Exhibit 67 Introduced by Mr. William A. Lusk," which showed the only difference to be this item of \$14,334. (For some reason the amount is expressed in Exhibit 195 as 48 cents instead of 51 cents.) This Exhibit shows that in 1927 and 1928 the company purchased rights of way over these five farms and paid an aggregate sum of \$543.50, which amount appeared in the Cost of Right of Way, and is included in the transmission groups of account. Each farm had a mortgage on it. Later on the mortgages were foreclosed. Colorado Interstate, not being able to negotiate with the mortgagees, acquired the farms at the foreclosure sales in order to protect their rights of way; at a total cost of \$14,334.48 (.51), which was carried, as above stated, not in the transmission groups of account, but as "Other Physical Property."

Through this same witness Schutte, and in his Exhibit 139, the Commission presented its statement of original cost, as follows:

Colorado Interstate Gas Company.
Summary of Investment in Gas Plant Per Books and as Adjusted
as of December 31, 1929.

Account No.	Description	Per Books Amount	Adjusted Total	Suspended for Commission's Consideration
(1)	(2)	(4)	(7)	(8)
	Transmission System			
220-D	Main Line and Laterals			
	Pipe	\$ 5,432,988.12	\$ 5,432,988.12	\$ 512,621
	Other Materials	1,004,337.64	1,004,337.64	
	Construction Costs	2,650,623.60	2,473,469.87	391,039.35
	Total Pipe, Fittings and Construc- tion	\$ 9,087,949.36	\$ 8,910,795.63	\$ 390,526.73
218-D	Land	2,420.30		
220-D	Rights of Way	110,400.05	273,167.20	
	Total Main Line and Laterals	\$ 9,200,769.71	\$ 9,183,962.83	\$ 390,526.73
	Compressing System			
218-C	Land	\$ 4,104.51	\$ 3,904.51	
219-C	Leaseholds	623.25	523.25	
221-C	Structures	85,654.96	195,153.67	\$ 7,370.20
224-C	Equipment	1,232,104.97	1,198,313.44	50,866.46
223-C	Other Structures	188,815.99	188,152.60	4,829.14
227-C	Other Equipment	5,320.18	5,320.18	
	Total Compressing System	\$ 1,616,623.86	\$ 1,591,367.65	\$ 63,065.80

Summary of Investment in Gas Plant Per Books and as Adjusted
as of December 31, 1939.

Account No.	Description (2)	Per Books Amount (4)	Adjusted Total (7)	Suspended for Commission's Consideration (8)
218-M	Measuring System			
222-M	Land			
225-M	Structures			
227-M	Equipment			
	Other Equipment			
	Total Measuring System			
	Other Structures and Equipment			
218-D	Land	926.90	926.90	
219-D	Leaseholds	115.50	115.50	
223-D	Structures	59,603.31	59,603.31	\$ 877.82
227-D	Equipment	18,792.11	18,792.11	186.50
	Total Other Structures and Equip- ment	\$ 79,407.95	\$ 79,437.82	\$ 1,064.32
225-E	Telephone System	\$ 146,873.63	\$ 155,667.60	\$ 1.65
	Total Transmission System	\$11,043,675.15	\$11,010,435.90	\$454,658.50
	Distribution System			
	Measuring System			
218-M	Land	12,210.45	12,210.45	
222-M	Structures	51,534.68	53,085.76	\$ 2,023.86
225-M	Equipment	90,293.64	88,539.24	3,045.17
227-M	Other Equipment	3,037.29	3,037.29	
	Total Distribution Measuring Sys- tem	\$ 157,076.06	\$ 156,872.74	\$ 5,069.03

203	Undistributed Fixed Capital	350,000.00		
203	Entrance Rights of Way.....			
203	Other Expenses During Construc- tion	63,675.61	\$ 36,925.61	\$ 32,803.59
262	Law Expenditures during Con- struction	50,899.41	46.00	
266	Interest during Construction.....	180,866.99	191,901.80	
	Total Undistributed Fixed Capital.....	645,442.01	\$ 228,873.41	\$ 32,803.59
249-E	General Property			
253-E	Office Furniture and Equipment.....	29,108.82	\$ 29,108.82	\$ 16.18
256-E	Garage Equipment	67,524.79	67,524.79	
	Tools and Equipment	33,930.69	33,930.69	
	Total General Property.....	130,564.30	\$ 130,564.30	\$ 16.18
	Franchises and Contracts			
	Book value of stocks issued to Southwestern Development Co. & Cities Service Co.....	2,352,941.17		
	Net Cost of City of Colorado Springs, Colorado, contract	236,666.67		
	Total Franchises and Contracts.....	2,589,607.84	\$ 11,526,746.35	\$492,547.30
	Total Gas Plant Accounts	\$14,566,365.36		
	Construction Work in Progress	\$ 29,677.85	\$ 29,677.85	
	Gas Plant Held for Future Use		19,994.71	
	Gas Plant Adjustments		2,352,941.17	
	Total	\$14,596,043.21	\$13,929,360.08	\$492,547.30

In the above summarized statement we have left out Column 3, which showed quantities, and Columns 5 and 6, which showed the Examiner's debit and credit adjustment entries, because we deal with them seriatim hereafter.

Also we deal with that portion of the foregoing statement entitled "Franchises and Contracts" in the next section of this abstract entitled "Costs of Contracts".

The items contained in Column 8, as explained by the witness Schutte, are not presently deducted from original cost but are earmarked for consideration by the Commission. We deal with the evidence respecting them after we have first abstracted the evidence with respect to adjustments already made.

Comparing these two summarized statements of the original cost of the *physical* property of respondent's portion of the Denver Line, as of December 31, 1939, the following items of adjustment are the only ones about which company and Commission disagree. We first deal with the adjustments made by the company (Lusk).

As Item 8, Statement 2, Exhibit 67, Lusk makes annual adjustments "for items charged to expense which are properly capital", which, accumulated to December 31, 1939, amounted to the total of \$284,806. He said:

"In general they represent maintenance and operating expense items which according to my classification, should not have been expense but should have been capitalized." (Vol. IX, pp. 1275, 1276.)

And again:

"My reason principally behind that is that they are preventive and not corrective measures and therefore should not have been expensed." (p. 1277.)

He knew that when Colorado Interstate began business and was setting up its accounts in 1927 and 1928, it voluntarily used the Pennsylvania Code of Accounts effective January 1, 1920, for natural gas companies as a guide in setting up such books (p. 1277). He referred to and quoted from that code and later extracts therefrom were put to

gether as Exhibit 75 (XVII, p. 2399). One such quotation is as follows:

"Betterments are physical changes in structures or equipment, the object of which is to make the structures or equipment affected more useful or of greater capacity than they were at the time of their original installation or acquisition. The utility shall charge as a betterment to the appropriate sub-account of '101. Fixed capital installed since December 31, 1919' account that portion of the cost of such changes as will, when added to the original cost of the structures or equipment bettered, give the cost of the structures or equipment in their bettered condition." (Vol. IX, p. 1279.)

The items covered by this amount he described as cathodic protection of the main line and laterals, rock weighting of the main line, and rip rap and re-inforcement of stream crossings (Vol. IX, pp. 1276, 1279). He then said:

"From my experience of long transmission pipe lines I am of the opinion they should have been capitalized and not have been charged under expense." (p. 1279.)

Schutte, for the Commission listed these same items in his Exhibit 196 (Vol. LXV, p. 9473) as follows:

1. Flood and Washout Control.....	\$ 26,637.68
2. Rock Weighting	46,683.72
3. Cattle Guards	4,922.70
4. Bridges	8,052.93
5. Rip Rap and Revétements—River and Stream Crossings	24,400.99
6. Roads and Culverts	32,380.69
7. Gravel, Rock and Shale for Main Line.....	9,921.87
8. Cathodic Protection	49,935.20
9. Profile Maps	2,980.53
10. Lowering Lines	638.33
11. Spare Parts	5,623.84
12. All Other, Miscellaneous.....	72,617.88
Total	<u>\$284,806.36</u>

As Item 9, Statement 2, Exhibit 67, Lusk added \$155,244 for "Adjustment for General Construction Cost Applicable to Net Property Additions and Capital Items of Expense." He explained that neither Colorado Interstate nor Canadian "had added interest during construction since the days of the initial construction period in 1928, regardless of the amount of additions and betterments they have put in."

(Vol. IX, p. 1281.)

He stated further:

"I included six and a half per cent for engineering, corporate and other administrative costs on all net property additions year by year and in addition to the six and a half per cent I included one and a half per cent for interest on those net fixed capital additions. The six and a half per cent applies to the item 'Expense' which should have been capitalized as shown by Line 8, but the one and a half per cent interest was not computed on the expense item. * * * The interest was computed solely on the items of fixed capital added during the year." (Vol. IX, p. 1280.)

Exhibits 195 and 196, already mentioned, of the Commission's witness Schutte, were offered in rebuttal of Lusk's inclusion in original cost of the three items of \$14,334.51, \$284,806.36 and \$155,244, respectively.

WILLIAM A. LUSK called as a witness by and on behalf of the respondent, being first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Brock:

Q. Please state your name.

A. William A. Lusk.

Q. Where do you live?

A. Brooklyn, New York.

Q. What is your occupation?

A. I am chief accountant for Ford, Bacon & Davis, Inc.

Q. How long have you been chief accountant for Ford, Bacon & Davis, Inc.?

A. Well, in this particular line of work with Ford,

Bacon & Davis I could say that it has been for the last ten or twelve years.

Q. What experience have you had in accounting work, that is, accounting work prior to the time that you became connected with Ford, Bacon & Davis, Inc.?

A. I have been with Ford, Bacon & Davis, Inc., approximately eighteen years. Prior to that I spent five years with the Emergency Fleet Corporation as assistant auditor, and general auditor of Wooden Ship Claims just after the termination of the last war. Prior to that I had several years war service, and prior to that I was engaged as a junior accountant in New York City, working for M. G. Corbitt & Company.

I worked for a time for the American Hawaiian Steamship Company, and prior to that I worked for an express company which is now out of business. That was immediately following the evening courses I had taken at Columbia University. That goes back to 1910.

Q. Are you a Certified Public Accountant?

A. No, sir.

Q. During the eighteen years that you have been connected with Ford, Bacon & Davis, Inc. have you been continuously employed in connection with accounting matters?

A. Yes, sir.

Q. Will you describe in some detail the character of work which you have done for Ford, Bacon & Davis during this period of time?

A. Well, Ford, Bacon & Davis, Inc. is engaged principally in engineering and all its related subjects. In that Ford, Bacon & Davis has a special department known as the Valuation Department and Report Department in which is performed all manner and classes of investigation work, and principally engineering and industrial work in connection with merges, consolidations and their related financing, and all engineering in connection with pipe lines. They have built many of the long natural gas transmission lines in the country in which I was connected with it as the general field auditor. They have also been engaged in work for several of the natural gas companies other than the Colorado Interstate and the Canadian, and principally the East Ohio, Hope Natural Gas Company, and the United

Fuel Gas Co. All of these rate hearings and work in connection with rates I have been actively connected with since 1925.

Q. Were these companies that you have just mentioned listed correctly? Did you give the correct corporate names? Will you name them again and try to give them, please?

A. The East Ohio Gas Company, Hope Natural Gas Company, and the United Fuel Gas Co.

Q. And all of that work that you have just described involved accounting work?

A. Yes, sir.

Q. Did you have any contact with the accounting work in connection with the construction of the Colorado Interstate Gas Company?

A. No, sir.

Q. Or the Canadian River?

A. No, sir.

Q. Did you have any contact with the management of these companies by Ford, Bacon & Davis from an accounting standpoint?

A. I wouldn't say actively because when Ford, Bacon & Davis were acting as the managers of those two properties the monthly reports came in and frequently I would be called upon to analyze the monthly reports for presentation in a different form to the executives.

Q. Have you now described fairly and completely your accounting experience in connection with the activities of Ford, Bacon & Davis?

A. I think so, yes, sir.

(Vol. VI, pp. 747-751.)

Q. Now, with reference to Item 8 on Statement 2, which is headed "Adjustment for Items Charged to Expense which are Properly Capital," are those items the ones that covered by this memorandum which is referred to on Page 3 of the exhibit, being entitled "Items Charged to Expense on the books of the Colorado Interstate Gas Company during the period 1930 to 1939, inclusive, which should have been capitalized?

A. Yes, sir.

Q. You understand that that memorandum was furnished to the staff of the Federal Power Commission?

A. That was furnished in April of this year.

Q. Will you tell us just what you did in working out these adjustments as shown opposite Item 8 on Statement 21.

A. Well, I began with all of the maintenance and operation expense of the Colorado Interstate Gas Company. I had the assistance of practically six men in the Colorado Springs office of the Colorado Interstate Gas Company, and they assisted me, working there after hours. We set a program of four hours at night—from five o'clock until nine o'clock—and we worked approximately four weeks in putting together the data that is shown in that 400-page volume submitted to the Federal Power Commission, the summation of which is shown in Line 8 of this exhibit, Statement 2. In general they represent maintenance and operating expense items which according to my classification, should not have been expense but should have been capitalized.

Q. I take it that your investigation resulted in your finding only this amount of \$284,806 as of the end of 1939?

A. That is accumulative, that \$284,806. It represents the accumulation of \$17,000 first shown in 1930 with accumulative additions each year.

Q. What were those items?

A. (Pause.)

Q. I don't mean for you to describe each one in detail, but can you give a general heading of them?

A. In general it consisted of the cathodic protection of the main line and laterals up to 1939. Subsequent to 1939 the expense of that particular operation is being capitalized.

Another large item is the rock-weighting of the main line itself. In other words, it was the placing of rock rip rap over the back fill of the pipe line to insure the line remaining down. From my own limited experience I have seen lots of lines under high pressures float.

Q. Is that when washouts occur?

A. That is when washouts occur, yes, sir, principally.

Q. And when you speak of the weighting, is that the placing of material on top of the pipe line?

A. The placing of rock on top of the back of it.

The Trial Examiner: That cost, Mr. Lusk, was charged to operating expense initially?

The Witness: Yes, sir.

By Mr. Dougherty:

Q. What other headings?

A. There is another item which amounts to quite a substantial sum and that is the rip rap and reinforcement of stream crossings to prevent soil erosion and washout of lines going across the streams. That has also been charged to expenses.

Q. Upon what basis or rule do you determine about these items that you have mentioned that they should properly have been capitalized and not charged to expense?

A. My reason principally behind that is that they are preventive and not corrective measures and therefore should not have been expensed.

Q. Did you have anything to do with the setting up of accounts of this company in the beginning in 1927 and 1928?

A. No, sir.

Q. Do you know whether or not any uniform system of accounts was used as a guide in the setting up of the books?

A. The companies, the Colorado Interstate Gas Company, used the Pennsylvania code in setting up their accounts.

Q. That is the code of accounts as in effect in the State of Pennsylvania for the public utilities for that time?

A. Not now. That was in effect in 1929.

Q. Was it in effect in 1927 and 1928?

A. I wouldn't say.

Q. Was the date 1920? Was that when it was adopted?

A. That was when the code itself became effective.

Mr. Dougherty: I am going to ask you not to answer the questions until I finish them. The reporter can't take both of us down at the same time.

The Trial Examiner: All that system of accounts, that was prescribed by the Pennsylvania Public Utilities Commission?

The Witness: Yes, sir.

By Mr. Dougherty:

Q. That is for Public Utilities in that state?

A. Companies within that state, yes.

Q. Are you able to tell whether or not under that code of accounts these various adjustments for various items which you have found and charged to expense should properly be charged to capital?

A. May I refer to the code?

Q. Yes.

A. On Page 44 of the uniform classification of accounts for natural gas companies effective January 1, 1920, and issued by the Public Service Commission of the Commonwealth of Pennsylvania, in the paragraph under "Betterment," it states:

"Betterments are physical changes in structures or equipment, the object of which is to make the structures or equipment affected more useful or of greater capacity than they were at the time of their original installation or acquisition. The utility shall charge as a betterment to the appropriate sub-account of '101. Fixed capital installed since December 31, 1919' account that portion of the cost of such changes as will, when added to the original cost of the structures or equipment bettered, give the cost of the structures or equipment in their bettered condition."

Q. Under that particular provision which you have just read, is it your opinion that these adjusted items should have been charged to capital instead of expense?

A. I think so, yes. From my experience of long transmission pipe lines I am of the opinion they should have been capitalized and not have been charged under expense.

Q. Is it your opinion that whoever had to do with that in the company was in error in so charging it to expense?

A. I do.

Q. Now with respect to Item 9 on Statement 2, will you give us the explanation of how those adjustments were arrived at?

A. Taking the net property addition year by year I increased, or I included in Item 10, rather, six and a half per cent for corporate engineering and other administrative costs.

Q. Is that 10 or 9?

A. 9. It is Line 9.

I included six and a half per cent for engineering corporate and other administrative costs on all net property

additions year by year and in addition to the six and a half per cent I included one and a half per cent for interest on those net fixed capital additions. The six and a half per cent applies to the item "Expense" which should have been capitalized as shown by Line 8, but the one and a half per cent interest was not computed on the expense item.

Q. What was it computed on?

A. The interest was computed solely on the items of fixed capital added during the year.

Q. And those are the ones that are shown against Items 1 to 6?

A. That is right. They are incorporated in the total amounts shown by Item 1 to 6, inclusive.

Q. Were those interest items charged on the company's books?

A. No, sir.

Q. Why did you include them in this statement?

A. The Federal Power Commission code of accounts allows a nominal or reasonable amount, as they put it, of interest to be added to fixed capital when paid out of the company's own funds.

Q. Well, is that interest during construction?

A. As interest during construction.

Q. Are the computations you made in accordance with the provision of the Federal Power Commission code?

A. That is what I followed.

Q. I am speaking now with respect to the interest.

A. Yes, sir.

The Trial Examiner: The practice of the company during these years was to add interest during construction?

The Witness: No, sir, neither company has added interest during construction since the days of the initial construction period in 1928 regardless of the amount of additions and betterments they have put in.

By Mr. Dougherty:

Q. Does Item 10 show the original cost of all of the physical property and other properties of the Colorado Interstate Gas Company that you have described as being a portion of this Denver pipe line?

A. Line 10 is the total original cost of the Colorado In-

terstate Gas Company property devoted to the Denver pipe line.

Q. And then, Item No. 11, what is that?

A. Item 11 is the summation of Line 10 on Statement 1 and Line 14—Line 10 on Statement 2, and Line 14 on Statement 1. It is the total original cost of the Denver line's property owned by both companies combined.

Q. And in your opinion, is that a correct statement of the original cost as recorded on the company's books, together with the adjustments which you have made?

A. Yes, sir.

Q. So that, as I understand it, then, as of December 31, 1939, the original cost of these properties from Bivins station on the line north was \$16,109,338?

A. That is correct.

(Vol. IX, pp. 1275-1282.)

Q. Now, Mr. Schutte, will you turn to that written statement and read it and as you read it, relate it to Exhibit 139?

A. "The written statement of Carl H. Schutte.

"This report sets forth the investment of Colorado Interstate Gas Company in gas plant, as of December 31, 1939. By account classification, it shows the value of that plant per the company's books, a series of adjustments made in journal entry form, and the gas plant investment after the application of the adjusting entries. It also shows components of cost of the several classes of plant.

"The adjusting entries, twenty-nine in number, running from No. 200 to No. 228, are given on Pages 1 to 48-D, inclusive. They are of two kinds: those that reclassify plant by transfers of amounts from one plant account to another; which entries are denoted by the letter 'R' prefixed to the numeral, and those that involve account other than plant accounts. The purpose of the entries is to adjust the plant accounts so that they will more nearly reflect the legitimate original cost of gas plant devoted to the public service. The explanation given as a part of each entry states the reason and basis for each adjustment.

"Following the journal entries on Page 49 appears Schedule No. 1. This tabulation shows by plant accounts, grouped according to the functions of the property they represent, the following: the investment per books as of December 31,

1939, the total amount of Examiner's debit and credit adjustments, the adjusted investment accounts as of December 31, 1939, and a list of amounts included in the adjusted investment accounts which are suspended for Commission's consideration. These elements are explainable as follows:

"(a) The investment per books is, with one exception, grouped according to the company's classification. We have classified that portion of the measuring system which relates directly to the sale of gas under distribution system.

"(b) The Examiner's adjustments are the total debits and credits for each plant account taken from a recapitulation of the twenty-six adjusting entries shown in Schedule No. 1A; the difference between total credit adjustments of \$3,937,945.92 and total debit adjustments of \$3,271,262.79, or \$666,683.13, is charged to 'Other Accounts' (Cf. Schedule No. 1A, Column 13).

"(c) The adjusted plant investment (Schedule No. 1, Column 7), is the amount, subject to suspensions shown in Column 8, that is recommended to the Commission for acceptance as the original cost of the company's property.

"(d) The amount suspended for Commission's consideration, \$492,547.30, consists of \$32,079.71 paid to Standard Oil Company of New Jersey as commissions on purchases made for this company; a credit of \$521.46 rebated on material purchased; and \$460,989.05 paid to Ford, Bacon & Davis, Inc. for engineering fees and expenses. The reasons for the suspensions are given in entries Nos. 226, 227, and 228.

"Schedule No. 2, which supports transmission system plant, shown in Schedule No. 1, gives the transmission system costs for one main line and sixteen lateral lines. In turn, it is supported by Schedules Nos. 2A, 2B, 2C, and 2D, which show components of cost by four groupings: for main transmission lines, transmission system laterals, transmission system land, and transmission system rights of way, respectively. The components of cost are classified by items of property under each sub-account, analyzed to show labor, materials and miscellaneous, and overhead.

"Schedules Nos. 3 to 14, inclusive, and supporting sched-

ules show for the remaining parts of the transmission system, and for the distribution system, undistributed fixed capital general property, and franchises and contracts, the same type of information that Schedule No. 2 and its supporting schedules show for transmission system main line and laterals.

"Certain items under undistributed fixed capital call particularly for mention. Schedule No. 7, cost components of entrance rights of way, represents an amount of \$350,000 paid to F. G. Bonfils, deceased, one time editor of the Denver Post (Cf. Report of Federal Trade Commission made in response to Senate Resolution No. 83, Seventieth Congress, Vol. 82, pp. 624-627).

"This transaction is described at length in the Examiner's Adjusting Entry No. 219.

"Schedule No. 10 and its supporting Schedules 10A, 10B, and 10C show the amount capitalized by the company for interest during construction, the basis of that capitalization, and a recalculation of interest during construction made by the Examiner for adjustment purposes.

"Except for initial construction in 1928 the company capitalized no interest during construction and the Examiner, following the company's policy in this request, has likewise made no allowance for interest during construction for plant constructed subsequent to the period of initial construction.

"Subsequent to the period of the company's initial construction substantial additions have been made, notably the Canon, Clayton, and Levine compressing stations have been built at a cost in excess of \$1,600,000.

"Schedules 10, 10A, 10B, and 10C and adjusting entries Nos. 222 and 223, all of which cover interest during construction, are self-explanatory. Schedule 10D shows the allocation of undistributed fixed capital as adjusted by the Examiner to plant accounts.

"Schedule No. 14, an analysis of franchises and contracts, shows the nature of the \$2,589,607.84 which makes up this account. The entire amount is the subject of adjustment by the Examiner in adjusting entries Nos. 224 and

225. Of the total, \$2,352,941.47 is a write-up of the plant account made to offset the par value of the preferred stock and the recorded value of the common stock issued to associated companies; this amount has been transferred by the Examiner to gas plant adjustments. The remainder of the total, \$236,666.57, representing the entire amount of the net recorded cost of the City of Colorado Springs contract, which is described in adjusting entry No. 225, has been transferred to other deferred debits. Further particulars of the amounts in the franchise and contracts account are quite fully set forth by Schedule No. 14 and adjusting entries Nos. 224 and 225.

*Schedule No. 16, four items of which are supported by Schedules Nos. 16A, 16B, 16C, and 16D; is an analysis of overheads and indirect field costs per the company's books as at December 31, 1939, amounting to \$826,835.77. The major divisions of these overheads and costs are Ford, Bacon & Davis fees and expenses, purchase commissions, inspection services, taxes during construction, and indirect field costs, and the amount charged to each plant account is set forth in Columns 4 to 13, inclusive.

*For convenience the plant account schedule to which the figures in each of these columns relate is listed below:

Column of
Schedule 16

4	relates to Schedule 2-A—Columns 2 to 8 2-B—Columns 2 to 18
5	relates to Schedule 3-B—Column 6
6	relates to Schedule 3-C—Column 6
7	relates to Schedule 3-D—Column 4
8	relates to Schedule 5-B—Column 5
9	relates to Schedule 5-C—Column 5
10	relates to Schedule 4-B—Column 5
11	relates to Schedule 4-C—Column 4
12	relates to Schedule 6—Column 2
13	relates to Schedule 11—Column 2

Q. Mr. Schutte, the preparation of Exhibit No. 139, or, rather, in the preparation of Exhibit No. 139, did you have access to all of the accounting records available of the Colorado Interstate Gas Company?

A. Yes, sir, both at Colorado Springs and New York City.

Q. And at New York City?

A. Yes, sir.

Q. And this exhibit was prepared by you and under your direction and supervision?

A. The exhibit was prepared by me and the working papers in part were prepared by me and in part were prepared by my associates.

(Vol. XXXIV, pp. 4707-4713.)

CARL H. SCHUTTE called as a witness by and on behalf of the Federal Power Commission, being first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. March:

Q. By whom are you employed, Mr. Schutte?

A. By the Federal Power Commission.

Q. How long have you been in the employ of the Commission?

A. Since 1937.

Q. In what capacity?

A. First as examiner of accounts and now as principal examiner of accounts.

Q. What is your profession?

A. Accountant.

Q. I wonder if you would give us a brief history of your experience?

A. I'll be glad to.

The Trial Examiner: What is your full name, Mr. Schutte?

The Witness: Carl H. Schutte, S-c-h-u-t-t-e.

After completion of grammar school, I attended Gem City Business College at Quincy, Illinois. I later completed a course in accounting of Alexander Hamilton Institute and also certain portions of the higher accountancy course offered by LaSalle Extension University.

I have had twenty-seven years of practical experience in utility and other accounting, seventeen years of which was spent with public utility companies, both holding and operating companies, and three and one-half years with the Federal Power Commission as an Examiner of Accounts. Public utility experience commenced in the year 1913 in the consumers' accounting division of the Quincy Gas and Electric Company.

From 1914 to 1919 I was employed by the Southern Illinois Light and Power Company at Hillsboro, Illinois, and St. Louis, Missouri, first in the consumers' accounting division, next in the general accounting division, and for a period of about three years as assistant to the general auditor. The duties of this latter position were that of auditing and distributing expenditures for operation and property additions, as well as the immediate supervision of work performed by the accounting division.

From 1919 to 1923 I was employed as general auditor by Mexico Power Company and its successor, Missouri Utilities Company, the duties of which position were the supervision of all accounting matters of the company.

From 1923 to 1925 I was employed as general auditor by Community Power and Light Company, a holding company, owning and operating public utility properties. In this capacity my duties, among other things, consisted of supervision of all accounting matters, audits, and so forth, and included considerable work with public accountants in connection with audits and examinations concerning properties of which purchases were contemplated.

From 1925 through 1930 I was employed as general auditor and assistant secretary by Commonwealth Utilities Company, a holding company owning and operating public utility and other properties. In this capacity, my duties, among other things, consisted of supervision of all accounting matters, audits, and so forth, and included considerable work with public accountants in connection with audits and examinations concerning properties of which purchase was contemplated.

I was also a member of the Board of Directors of the

subsidiary companies owned or controlled by Commonwealth Utilities Company, in which capacity I acted as coordinator between the parent company and subsidiaries.

From 1930 to 1937 I was employed as an accountant in industrial work, resigning the position of general auditor with the New State Ice Company, Oklahoma City, Oklahoma just prior to my appointment to the staff of the Federal Power Commission in 1937.

By Mr. March:

Q. Have you made an examination of the books and records and accounts of the Canadian River Gas Company?

A. Yes.

Q. Where was that examination made?

A. The work that I personally did was at Colorado Springs and work was performed under my supervision at the office in New York City.

Q. Have you made an examination to ascertain the corporate history of the Canadian River Gas Company?

A. That's right.

Q. I wonder if you can just give us briefly the corporate history of that company?

A. All right, sir.

(Vol. VI, pp. 847-850.)

Docket G-124

1

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. R-200		
220-D Transmission System Rights of Way	\$156,951.66	
226-D Transmission System Equipment (Construction Costs)		\$156,951.66

To transfer recorded costs of right-of-way surveys, clearing right of way, and damages from Construction Costs where carried on the Company's records, to Right of Way account.

	<u>Right- of-Way Surveys</u>	<u>Clearing Right of Way</u>	<u>Damages</u>	<u>Total</u>
<u>Main Line</u>				
Clayton, New Mexico to Denver, Colorado	\$59,446.54	\$36,789.37	\$40,496.37	\$136,732.28
Sand Creek Loop	172.34			172.34
Jimmie Camp Creek Crossing			50.00	50.00
Apishapa Loop	68.53			68.53
Total Main Line	<u>\$59,687.41</u>	<u>\$36,789.37</u>	<u>\$40,546.37</u>	<u>\$137,023.15</u>
<u>Laterals</u>				
American Crystal Sugar Lateral and Loop	\$ 222.78		\$ 107.69	\$ 330.47
Arkansas Valley Lateral	1,223.07		702.65	1,925.72
Aurora Lateral and Extension	592.34			592.34
Colorado Fuel and Iron	1,166.62	\$ 1,284.99	2,167.75	4,619.36
Colorado Springs	432.60		500.00	932.60
Fort Lyon	129.63		57.00	186.63
La Junta	2,182.07		406.00	2,588.07
Las Animas	1,908.71		1,879.61	3,788.32
North	372.04			372.04
Portland	2,176.88		1,583.79	3,760.67
Pueblo	376.37	176.16		552.53
Rocky Ford	216.41		13.00	229.41
Santa Fe	36.65	13.70		50.35
Total Laterals	<u>\$11,036.17</u>	<u>\$ 1,474.85</u>	<u>\$ 7,117.49</u>	<u>\$ 19,628.51</u>
Total Main Line and Laterals	<u>\$70,723.58</u>	<u>\$38,264.22</u>	<u>\$47,963.86</u>	<u>\$156,951.66</u>

Docket G-124

3

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. R-202

255-E Telephone System Rights of Way	\$946.00	
220-D Transmission System Rights of Way (Main Line)		\$946.00

To reclassify the cost of various easements purchased solely for telephone system right-of-way purposes but recorded as Transmission System Rights of Way, to Telephone System, and consisting of the following payments:

Reference	Grantor	County and Grant No.	Rodage	Cost
1928				
C-25	Memo Kansas City Life Insurance Co.	Union, N.M. 74	453.9	\$250.00
C-26	" Clyde P. Thomas	do. 84	497.1	275.00
B-25	" R. W. Mathews	Las Animas, Colo. 24	304.7	125.00
C-26	" M. W. Sellers	do. 34	162.1	200.00
F-4	" A.T. & S.F. Ry.	do. 119	13.9	5.00
F-34	" R. C. White	Pueblo, Colo. 80	128.2	75.00
F-4	" C.R.I. & P. Ry.	El Paso, Colo. 120	12.1	1.00
1929				
A-31	C. & S. Ry.	Arapahoe, Colo. 109	15.3	15.00
	Total		1,587.3	\$946.00

No. 203

220-D Transmission System Rights of Way (Main Line)	\$235.00	
Miscellaneous Income		\$235.00

To correct net credit of vouchers erroneously recorded to Colorado Interstate Gas Company rights-of-way costs which are applicable to Canadian River Gas Company.

Reference	Particulars	Amount
1928		
March CR-23	Refund received from L. C. Koontz in re change in location of telephone line, Hartley-County, Texas, credited in error to Colorado Interstate Gas Company Transmission System Rights of Way	\$(250.00)
1929		
Sept. J-302	Payment to Fort Worth & Denver Railway Co. for telephone line crossing permit in Potter County, Texas	15.00
	Net of the above	<u>\$(235.00)</u>

Docket G-124

4

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. 204

250-11 Reserve for Depreciation - Transmission System	\$1,673.59	
220-D Transmission System Rights of Way (Main Line)		\$1,673.59

The above amount represents the original cost of certain transmission system rights of way foreclosed upon by mortgagees, necessitating the repurchase of rights of way over such lands. The Respondent not only failed to remove such original right-of-way costs, but also capitalized the cost of repurchasing same, thus duplicating the cost of such rights of way in its plant account.

If proper provision had been made for the mortgagees' interests in acquiring these rights of way, there should have been no occasion for the loss of such rights of way and the necessity of repurchasing same. According to Mr. H. F. Benson, Respondent's Land Department representative, who was instrumental in the acquisition of rights of way, to have secured releases from all mortgagees (referring to the entire length of the pipe line) would have delayed acquisition of rights of way and delayed the construction of the pipe line.

Mr. Benson also said that it had been the Company's policy to secure releases only when the mortgagors were delinquent in payments due under mortgages and it appeared that foreclosure was probable, in which instances the payment made to the mortgagor for right-of-way grant was generally applied to the reduction of his mortgage.

This entry removes the costs of the ineffective rights of way from plant accounts. The original costs of the ineffective rights of way, together with costs of repurchase, are shown in the following schedule:

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

No. 204, (Cont'd)

ORIGINAL PURCHASES					REPURCHASES				
Voucher Reference	Grant Number	Grantor	Redage	Cost	Voucher Reference	Grantor	Cost		
Union County, New Mexico									
1927 L-12 Memo	37	J. T. Gilmore	242.1	\$ 121.50	1936 A-1-14	Federal Land Bank of Wichita	\$ 121.50		
1926 A-17 "	19	Sam J. Lusk and D. W. Priestly	250.2	125.50	1936 F-2-33	do.	107.00		
1927 L-12 "	11	Thurman H. Seaman	117.0	(1.00	1939 M-1-13	A. J. Krehbiel, Attorney for			
1928 A-9 "				(58.59		Mrs. Hattie S. Reichman	58.50		
Las Animas County, Colorado									
1927 L-23 Memo	58	E. L. Dodge	363	182.00	1928 K-169	Charlie E. Barnes	182.00		
Pueblo County, Colorado									
1927 L-12 Memo	23	Wm. R. Brown	191.9	96.00	1935 K-2-1	Denver Joint Stock Land Bank	96.00		
1927 L-12 "	28	Ida E. Wineinger	109.5	56.00	1935 E-14	Fowler State Bank	55.00		
El Paso County, Colorado									
1927 L-12 Memo	3	Reed Dysart and S. A. Jones Est.	671.9	336.00	(1932 K-38	Francois O. Heiser.	54.85		
1927 L-12 "	18	Malcolm H. Ord, et al.	160.1	82.50	(1932 L-38	do.	100.00		
1927 L-12 "	34	John G. Evans	403.0	202.50	1932 F-193	P. M. Kistler	40.25		
1928 A-9 "	31	Werner A. Hering	165.0	85.00	1933 D-34	J. D. Akerman	201.50		
					1934 J-14	Ora and Vera Ader	76.00		
Douglas County, Colorado									
1927 L-12 Memo	21	George J. Dietrich	181.0	182.00	1936 L-1-20	Federal Land Bank of Wichita	90.50		
1927 L-12 "	27	Anna M. Baird	46.4	23.50	1935 E-14	Colorado National Bank, Trustee	23.50		
1927 L-12 "	38	J. N. Swingle	160.6	81.50	1934 F-14	Denver Joint Stock Land Bank	80.50		
Arapahoe County, Colorado									
1928 A-17 Memo	50	S. A. D. Culbertson	84.0	42.00	1939 K-1-39	The Capital Life Insurance Co., Denver, Colorado	250.00		
Totals				3,146.3				\$1,537.10	

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. R-205

220-D	Transmission System Rights of Way (Main Line)	\$200.00	
218-C	Compressor Station Land - Clayton		\$200.00

To correct duplicate credit recorded to
 Transmission System Right of Way costs covering
 fee purchase of Clayton meter station site, viz:

Voucher Ref.		Acct. 220-D Transmission System Rights of Way	Acct. 218-C Clayton Compressor Station Land	Acct. 218-M Clayton Measuring Station Land
1928 H-6 Memo	Fee land erroneously charged	\$200.00		
M-226	Transfer charge intended for Account 218-M was posted to Account 218-C (200.00)		\$200.00	
1931 J-242	Transfer intended to cor- rect Voucher M-226, 1928	(200.00)		\$200.00
	Result	\$(200.00)	\$200.00	\$200.00
	Application of above entry	200.00	(200.00)	
	Corrected result	-	-	\$200.00

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. R-206		
220-D <u>Transmission System Rights of Way</u>		
<u>Main Line</u>	\$ 8,326.94	
Colorado Fuel and Iron Lateral	207.36	
Clayton Lateral	96.37	
Las Animas Lateral	54.57	
Pueblo Lateral	32.67	
222-M <u>Measuring System Structures</u>		
Colorado Fuel and Iron	2.93	
Clayton	11.75	\$ 7.67
Denver	784.90	656.23
Pueblo	336.02	231.78
223-C <u>Other Compressing System Structures</u>		
Canon Building No. 11 - Dwelling	333.19	319.76
" " " 12 - Bunkhouse	136.44	130.94
" " " 13 - 2-car garage	25.20	24.18
Clayton " " 9 - Bunkhouse	212.10	207.85
Devine " " 1 - Line walker's dwelling	269.14	255.80
" " " 7 - 2-car garage	30.07	28.58
223-D <u>Other (Transmission System) Structures</u>		
Apishapa Building No. 1 - Dwelling and bunkhouse	110.55	95.92
" " " 2 - 2-car garage	5.50	4.77
Travesser " " 1 - Bunkhouse and cabin	346.02	335.75
" " " 2 - 2-room dwelling	46.62	45.23
" " " 3 - 3-car garage	14.16	13.74
225-M <u>Measuring System Equipment</u>		
Colorado Fuel and Iron	811.37	893.89
Clayton	46.34	66.22
Denver	1,478.10	1,622.25
Pueblo	655.75	728.36
226-D <u>Transmission System Equipment</u>		
<u>Main Line</u>	425,147.12	435,507.99
Arkansas River Crossing	5,412.53	
Huerfano River Crossing	3,959.74	
St. Charles River Crossing	1,429.88	
Colorado Fuel and Iron Lateral	11,498.26	17,756.76
Clayton Lateral	931.64	11,682.08
Pueblo	1,708.53	2,336.42
225-E <u>Telephone System</u>	8,490.41	
Totals	\$472,952.17	\$472,952.17

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

No. R-206 (Cont'd)

To substitute Examiner's allocation (per debits above) of the following initial construction overheads, in lieu of the Company's allocation thereof (per credits above) as recorded by its Vouchers M-206 and M-210, December 1928:

<u>Account Number</u>		<u>Amount</u>
258	Ford, Bacon & Davis, Inc. Fees and Expenses	\$370,248.89
258	Engineering and Superintendence during Construction	15,792.52
259	General Office Clerks' Salaries during Construction	17,956.36
260	General Officers' and Clerks' Expenses during Construction	8,882.24
261	Office Supplies and Expenses during Construction	7,982.88
263	Injuries and Damages during Construction	123.58
264	Insurance during Construction	6,632.98
265	Taxes during Construction	44,361.99
267	Other Expenditures during Construction	977.32
	Total initial construction overheads allocated by Vouchers M-206 and M-210, 1928	\$472,958.76
	Less: Overheads charged to Account 223-C, Canon Building No. 14 (well house) subsequently retired	6.59
	Initial construction overheads subject to reallocation	<u>\$472,952.17</u>

The base used by the Company in its allocation omitted Accounts 220-D, Transmission System Rights of Way; 226-D, Transmission System Equipment, River Crossings; and 255-E, Telephone System.

The Company's allocation within the Transmission System Equipment account was based on the mileage of the several lines regardless of the size of pipe, rather than the dollar cost of the individual lines. Due to this method of allocation, the overheads assigned to the several laterals are inequitable.

This entry reallocates such initial construction overheads over all plant accounts as of November 30, 1928 to which they are applicable based on the ratio of the individual plant account to the total investment.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. 207		
451-E Tax Expense (1928)	\$14,787.33	
Fixed Capital:		
220-D <u>Transmission System Rights of Way</u>		
Main Line		\$ 260.35
Colorado Fuel and Iron Lateral		6.48
Clayton Lateral		3.01
Pueblo Lateral		1.02
Las Animas Lateral		1.71
222-M <u>Measuring System Structures</u>		
Colorado Fuel and Iron		.09
Clayton		.37
Denver		24.54
Pueblo		10.50
225-M <u>Measuring System Equipment</u>		
Colorado Fuel and Iron		25.46
Clayton		1.45
Denver		46.04
Pueblo		20.58
223-C <u>Other Compressing System Structures</u>		
Canon Building No. 11 - Dwelling		10.49
" " " 12 - Bunkhouse		4.29
" " " 13 - 2-car garage		.79
Clayton " " 9 - Bunkhouse		6.67
Devine " " 1 - Line walker's dwelling		8.47
" " " 7 - 2-car garage		.95
223-D <u>Other (Transmission System) Structures</u>		
Apishapa Building No. 1 - Dwelling		3.46
" " " and bunkhouse		.17
" " " 2 - 2-car garage		
Travesser " " 1 - Bunkhouse		10.82
" " " and cabin		
" " " 2 - 2-room dwelling		1.46
" " " 3 - 3-car garage		.44
226-D <u>Transmission System Equipment</u>		
Main Line		13,292.48
Arkansas River Crossing		169.22
Huerfano River Crossing		123.80
St. Charles River Crossing		44.71
Colorado Fuel and Iron Lateral		359.50
Clayton Lateral		29.13
Pueblo Lateral		53.42
255-E <u>Telephone System</u>		265.46

To remove from plant accounts excess Taxes during Construction capitalized by Vouchers L-254 and M-175 in 1928. Total taxes for the year 1928 as shown by Schedule No. 16-D were \$59,149.33, of which \$44,361.99, the proportionate amount for the 9-month period ended September 30, 1928, was capitalized and \$14,787.33, the proportionate amount for the months of October, November and December, was expensed.

In view of the fact that commercial deliveries of natural gas were made to Colorado Fuel and Iron Company located near Pueblo, Colorado, on June 19, 1928, to Pueblo Gas and Fuel Company on June 21, 1928, and to the Public Service Company of Colorado at Denver, Colorado, on June 23, 1928, the period covered by taxes capitalized, January 1 to September 30, 1928, extends beyond a reasonable date for the commencement of commercial operation, the reasonable date for which appears to be July 1, 1928.

Removal by this entry of \$14,787.33 of taxes capitalized for the period July 1 to September 30, 1928 leaves \$29,574.66 of taxes in the plant accounts for the 6-month period ended June 30, 1928.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. R-208		
220-D <u>Transmission System Rights of Way</u>		
Main Line		\$ 369.72
Colbrado Fuel and Iron Lateral		9.21
Clayton Lateral		4.28
Las Animas Lateral		2.42
Pueblo Lateral		1.45
222-M <u>Measuring System Structures</u>		
Colorado Fuel and Iron		.13
Clayton		.52
Denver	\$ 21.00	34.85
Pueblo		14.92
223-C <u>Other Compressing System Structures</u>		
Canon Building No. 11	42.00	14.89
" " " 12		6.10
" " " 13		1.13
Clayton " " 9		9.48
Devine " " 1		12.03
" " " 7		1.34
223-D <u>Other (Transmission System) Structures</u>		
Apishapa Building No. 1	42.00	4.91
" " " 2		.24
Travesser " " 1		15.37
" " " 2		2.07
" " " 3		.63
225-M <u>Measuring System Equipment</u>		
Colorado Fuel and Iron		36.03
Clayton		2.06
Denver	147.00	65.63
Pueblo		29.11
226-D <u>Transmission System Equipment</u>		
Main Line	19,337.14	18,877.10
Arkansas River Crossing		240.32
Huerfano River Crossing		175.82
St. Charles River Crossing		63.49
Colorado Fuel and Iron Lateral	788.42	510.54
Clayton Lateral	518.70	41.37
Pueblo Lateral	103.74	75.86
255-E <u>Telephone System</u>		376.98
Totals	\$21,000.00	\$21,000.00

Reallocation of credit for excess accrual of Ford, Bacon & Davis, Inc. construction fee for one month included in accrual per Voucher H-52, 1928, and spread to primary accounts by Vouchers M-206 and M-210, 1928, subsequently corrected by Voucher A-221, 1929. Debits as above cancel Respondent's allocation by Voucher A-221, 1929, and credits as above represent Examiner's allocation of excess accrual on the same basis as used for reallocation of initial construction overheads capitalized per Examiner's Adjusting Entry No. R-206.

Docket G-124

13

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
No. 209 -			
226-D	Transmission System Equipment - Clayton Lateral	\$10,302.24	
225-M	Measuring Station Equipment - Clayton	23.39	
220-D	Rights of Way - Clayton Lateral		\$ 89.08
222-M	Measuring Station Structures - Clayton		3.19
	Miscellaneous Income		10,233.36
		<u>\$10,325.63</u>	<u>\$10,325.63</u>

To adjust the Company's entry by Voucher F-12, June 1933, covering the sale of the Clayton Lateral and meter station as of May 31, 1933 to Canadian River Gas Company. Depreciation reserves in connection therewith are covered by Examiner's Adjusting Entry No.

The differences between Respondent's recorded costs for this property and Examiner's adjusted costs are due to the Respondent's having erroneously allocated its initial construction overheads as recorded by its Vouchers M-206 and M-210, December 1928, first, by omission of several plant accounts in the base on which the allocation was computed, and second, because the allocation of such overheads within the transmission system was based on the mileage of the several lines rather than on the dollar cost thereof, thus inequitably charging to the Clayton Lateral (2-, 3- and 4-inch pipe) the same rate per mile as was charged the main line and other laterals of larger size.

The allocation of the initial construction overheads is adjusted by Examiner's Adjusting Entry No. R-206 which, together with Examiner's Adjusting Entries Nos. 207 and R-208, results in a net adjustment in the cost of the property disposed of to Canadian River Gas Company as above.

Following is a reconciliation of the cost of such property, per books, adjustments applied, and as adjusted by the Examiner:

Account Number	Description	C o s t		Entry No. 209 Adjustment
		Per Books May 31, 1933	As Adjusted May 31, 1933	
220-D	Rights of Way	\$ 1,606.50	\$ 1,695.58	\$. (89.08)
226-D	Trans. System Equipment	38,433.00	28,130.76	10,302.24
218-M	Measuring Station Land	100.00	100.00	
222-M	" Structures	342.28	345.47	(3.19)
225-M	" Equipment	1,265.10	1,241.71	23.39
	Totals	<u>\$41,746.88</u>	<u>\$31,513.52</u>	<u>\$10,233.36</u>

Docket G-124

14

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. R-210		
221-C Canon Main Compressor Building	\$4,184.17	
224-7C Canon Compressing Station Equipment		
Machine Tools		\$2,860.25
224-20C Canon Compressing Station Equipment		
General Construction		
Miscellaneous (Freight)		585.60
Overheads and Other		738.32

To transfer the cost (plus proportionate general construction costs) of one 7½ ton Whiting overhead traveling crane from Canon Compressing Station Equipment, Accounts 224-7C and 224-20C where recorded by Voucher K-299, October 1929, to Canon Main Compressor Building, Account 221-C.

Original costs thereof are as follows:

Voucher		Charged to Account	
1929		224-7C	224-20C
G-4	Whiting Corporation -- Payment on crane	\$1,375.00	
G-8	do. do.	687.50	
G-213	do. do.	687.50	
G-59	Henry H. Leonard - Hauling crane from Model, Colo., to Canon station	94.25	
H-112	Whiting Corporation - 1 - 15" P.D. cut gear	16.00	
G-16	Colorado Springs National Bank - Payment of draft for freight on crane		\$ 585.60
		\$2,860.25	\$ 585.60
	General construction, including over-heads and indirect field costs as of Dec. 31, 1930 - 21.4263% of direct costs.		738.32
		\$2,860.25	\$1,323.92

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
No. R-211			
221-C	Clayton Main Compressor Building	\$3,382.94	
224-7C	Clayton Compressing Station Equipment		
	Machine Tools		\$2,929.47
224-20C	Clayton Compressing Station Equipment		
	General Construction		453.47

To transfer the cost (plus proportionate general construction costs) of one $7\frac{1}{2}$ ton double beam hand crane with Type A rope drum hoist, 65' $5\frac{1}{2}$ " span, 20' rail to floor, 35' rail, from Clayton Compressing Station Equipment, Accounts 224-7C and 224-20C where recorded, to Clayton Main Compressor Building, Account 221-C.

Original costs thereof are as follows:

Voucher			Charged to Account
1930			<u>221-C</u> <u>224-20C</u>
D-127	Maris Bros., Inc., Philadelphia, Pa.		
	Crane	\$2,193.00	
	Less cash discount	21.93	
			\$2,171.07
T-393	Freight on crane	\$1,108.80	
	Less claim for overcharge	261.60	
			847.20
D-158	Maris Bros., Inc. - Amount deducted from payment of invoices to cover excess freight paid on crane shipped to Clayton, New Mexico		
			(88.80)
			<u>\$2,929.47</u>
	General construction costs, including overheads and indirect field costs - 15.4795% of direct costs		
			<u>453.47</u>
			<u>\$2,929.47</u> <u>\$453.47</u>

No. R-212

221-C	Devine Main Compressor Building	\$3,416.12	
224-7C	Devine Compressing Station Equipment		
	Machine Tools		\$3,018.27
224-20C	Devine Compressing Station Equipment		
	General Construction		397.85

To transfer the cost (plus proportionate general construction costs) of one $7\frac{1}{2}$ ton double beam hand crane from Devine Compressing Station Equipment, Accounts 224-7C and 224-20C where recorded, to Devine Main Compressor Building, Account 221-C.

Original costs thereof are as follows:

Voucher			Charged to Account
1930			<u>221-C</u> <u>224-20C</u>
D-158	Maris Bros., Inc., Philadelphia, Pa.		
	Crane	\$2,193.00	
	Less cash discount	21.93	
			\$2,171.07
E-450	Freight on crane		847.20
			<u>\$3,018.27</u>
	General construction costs, including overheads and indirect field costs - 13.181568% of direct costs		
			<u>397.85</u>
			<u>\$3,018.27</u> <u>\$397.85</u>

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. 213

250-11 Reserve for Depreciation - Compressing
Station (1939)

Canon Compressing Station

\$2,910.95

224-20C

General Construction Costs

\$2,910.95

To adjust Respondent's entry retiring certain abandoned station water wells and river dam, primarily on Voucher K-29, October 1939, which entry retired only direct costs, omitting entirely such General Construction Costs (Account 224-20C) as were applicable thereto. The adjustment is based on recorded costs as follows:

	Acct. 224-8	Acct. 224-20 Gen. Const. Applicable
<u>Station Water Wells</u>		
Cost of wells together with motors, pumps, etc., as of December 31, 1930	\$19,606.91	\$4,201.04
Less:		
Transfer to Transmission Water Line - Purgatoire, in 1932 (Account 224-28C)	(2,743.22)	(587.77)
Transfer to Yard Water Lines in 1939 (Account 224-10)	(947.81)	(203.08)
Retirements		
Year 1931	\$(180.73)	
" 1932	(80.88)	
" 1933	(289.03)	
" 1935	(245.75)	
Additions		
" 1939	5.28	
Balance at time of retirement entry	\$15,124.77	\$3,239.55
Cost of Wells Nos. 3 and 4 retained in plant account as operative wells	3,333.58	727.12
Balance retired per Voucher K-29, October 1939, as the cost of abandoned Wells 1, 2, 5 and 6	\$11,731.19	
General Construction Costs applicable to 1939 retirement		\$2,512.43
General Construction Costs applicable to retire- ments during years 1931, 1932, 1933 and 1935		170.64
General Construction Costs subject to retirement in connection with station water wells		\$2,683.07
<u>River Dam</u>		
Portion of Work Order No. 134 closed to plant accounts in 1932	\$ 2,522.11	\$ 227.88
Additions - Work Order No. 163 - Year 1934	3,490.84	
Retirements and transfers - Year 1933	(7.12)	
do. " 1939	(33.00)	
Balance at time of retirement entry	\$ 5,972.83	
Retirement per Voucher K-29, October 1939	5,972.83	
General Construction Costs applicable thereto		\$ 227.88
Total General Construction Costs applicable to retirements as above		\$2,910.95

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
No. 214			
100-4	Gas Plant Held for Future Use	\$19,994.71	
219-C	Leaseholds - Canon Compressor Station		\$ 100.00
221-C	Compressor Station Structures - Canon (River Pump House)		1,484.52
	Compressing Station Equipment - Canon:		
224-28C	Transmission Water Line (Purgatoire River)		16,626.12
224-20C	General Construction		1,784.07

To transfer the recorded costs of the above items as of December 31, 1939, plus the proportion of General Construction Costs (Account 224-20C) as are applicable to the Transmission Water Line, Purgatoire River (Account 224-28C), from Gas Plant in Service to Gas Plant Held for Future Use, all in accordance with data acquired in the Engineering investigation as outlined in the attached memorandum.

The amount transferred from General Construction Costs, Account 224-20C, represents the proportion of that account applicable to costs recorded in Account 224-28C, Transmission Water Line, Purgatoire River, and is computed as follows:

	Direct Costs to Which Applicable	General Const. Costs Applied
Transfer in 1932 of costs from Work Order No. 41, originally recorded in Account 224-8C by Voucher J-420, 1930	\$ 2,743.22	\$ 587.77
From closing Work Order No. 134, by Voucher M-43, 1932	13,240.53	1,196.30
Total General Construction Costs applicable		<u>\$1,784.07</u>

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING REPORT

COPY

No. 214. (Cont'd)

MEMORANDUM

Colorado Springs, Colorado
August 15, 1940

Subject: Colorado Interstate Gas Company
Recommended Adjustment in Plant Accounts

At the time of our inspection of Canon Compressing Station in August 1939, it was found that the Purgatoire River pump house, pumping equipment installed therein, and the water line from the river up to the compressing station site were not in use. It was also observed that a dam, which had been constructed across the river downstream from the suction water line, had been washed away.

Information subsequently obtained from examination of company records, and from conversation with the Chief Engineer of the company and the Chief Engineer of Canon Station is summarized as follows:

(1) Due to inadequacy of water supply from wells located on the compressing station site, in 1932 the company built a dam across the Purgatoire River, installed a gas-engine driven pump in a Butler steel building near the dam and a 4" steel water line from the pump house to the station site.

(2) The major portion of the water supply for compressing station use was obtained from the river from 1932 to 1937, although this source was not too satisfactory, because the river water was very hard, and the dam was seriously damaged by floods from time to time.

(3) In 1937, the company obtained a new supply of much softer water from the Arnet wells, which it drilled on a leasehold approximately four miles from the station site. These wells are now the normal source of supply for all plant uses.

(4) The river dam has washed away and costs were retired by the company in 1939. However, the pump house, pumping equipment, and water line are still in place and are still on the company books, although not maintained in the same condition as other property at the station. The company thinks that the Arnet wells will continue to deliver an adequate supply of water, but is not certain of it, and has therefore kept the Purgatoire River water supply system in place so that it can be put in operative condition and used if the Arnet wells go dry or become inadequate.

(5) The Purgatoire River water supply system cannot be used for regular or emergency service in its present condition and hence, in our opinion, should not be classified as plant in service. However, the company's past difficulties in securing an adequate supply of water for Canon Station indicate that there is a possibility that the Purgatoire River water supply system may have to be put back in service at some future date, particularly if the Arnet wells go dry or become inadequate, and hence, we recommend that the company's investment in this property as of December 31, 1939 be classified as plant held for future use.

/s/ L. M. Hill
L. M. Hill
Associate Engineer

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. 215		
250-11 Reserve for Depreciation - Compressing System (1930)	\$266.74	
224-20C Devine Compressing Station Equipment General Construction		\$266.74

To retire \$266.65 of expenses incurred in 1928 and \$.09 in 1930, first recorded as Account 224-8C, Water Wells, Devine Station, under Work Order No. 5, later recorded as Account 224-20C, General Construction, in closing out Work Order No. 5. Memorandum in work order ledger is to the effect that the well was abandoned before completion and no well was ever drilled.

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. 216

384-C Devine Compressing Station		
Maintenance - Compressing Station		
Equipment (1935)	\$1,220.42	
224-LC Devine Compressing Station Equip-		
ment - Pipe and Fittings		\$1,220.42

The above amount represents the capitalized portion of expenses incurred during 1935 in connection with work performed under Work Order No. 198, "Reconditioning the main gas piping at Devine Station," the total cost of which aggregated \$3,019.54 as follows:

Materials	Total Cost	Charged to	
		Plant Account 224-LC	Operating Account 384-C
Wire brushes	\$ 25.20		\$ 25.20
No oxide paint	40.90		40.90
No oxidized paper	45.73		45.73
Sand and gravel	123.06	\$ 102.30	20.76
2" pipe, 152'6"	30.92	30.92	
Daubers	5.41		5.41
5/8" garden hose	4.75		4.75
Sundry	15.29	2.50	12.79
	\$ 291.26	\$ 135.72	\$ 155.54
Labor	\$1,844.23		
Trucking	792.73		
Miscellaneous -			
auto expenses, etc.	91.32		
Totals - charged on		2,728.28	1,084.70
Voucher M-39, December 1935		\$3,019.54	\$1,220.42
			\$1,799.12

Following is a copy of memorandum concerning the recording of the costs of Work Order No. 198:

"COLORADO INTERSTATE GAS COMPANY
Colorado Springs, Colo.
1/17/36

"J. O. Shields

Dear Mr. Shields:

"Work Order No. 198, issued for the reconditioning of the main gas piping at Devine Station, indicates upon analysis that part of the cost of this job should be charged to investment, due to the fact that we excavated the old corrosive soil overlying the pipe - removing it entirely and replacing it by the purchase in Pueblo of fine gravel and sand out of Fountain Creek.

"The total cost of the job was \$3,019.54 of which \$1,799.12 should be charged to expense and \$1,220.42 should be charged to investment.

Yours very truly,

/s/ J. P. McClintock"

The above amount of \$1,220.42, capitalized by the Respondent, is transferred to Operating Expenses for the reason that the type of expenses incurred in connection with the work performed under Work Order No. 198, as well as the title of the work order and the above copy of memorandum, indicates the character of work as being in the nature of preventive maintenance rather than an addition to the physical plant.

It also appears that the cost of labor and trucking capitalized is the result of an allocation.

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Exhibit No. 139

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
No. 217		
383-C Maintenance of Other Transmission System Structures (1939)	\$667.79	
223-C Other Compressing System Structures - Devine		\$667.79
House No. 1	\$148.51	
" " 2	185.54	
" " 3	37.04	
" " 4	37.04	
" " 9	185.58	
" " 11	37.05	
" " 12	37.05	

The above amount represents the entire cost of work performed under Work Order No. 343 (1939), which covered the screening, remodeling and painting of porches of houses at the Devine station, as follows:

House No.		Total Cost		Remodeling		Painting	
		Allocated	Screening	Back Porch	Front Porch	Back Porch	
1	Labor	\$105.86		\$103.57		\$ 2.29	
	Material	42.65		40.25		2.40	
	Total	\$148.51		\$143.82		\$ 4.69	
2	Labor	\$115.68	\$ 8.67	\$103.57	\$ 1.15	\$ 2.29	
	Material	69.86	26.02	40.25	1.19	2.40	
	Total	\$185.54	\$ 34.69	\$143.82	\$ 2.34	\$ 4.69	
3	Labor	\$ 9.82	\$ 8.67		\$ 1.15		
	Material	27.22	26.02		1.20		
	Total	\$ 37.04	\$ 34.69		\$ 2.35		
4	Labor	\$ 9.82	\$ 8.67		\$ 1.15		
	Material	27.22	26.02		1.20		
	Total	\$ 37.04	\$ 34.69		\$ 2.35		
9	Labor	\$115.70	\$ 8.67	\$103.58	\$ 1.15	\$ 2.30	
	Material	69.88	26.03	40.25	1.20	2.40	
	Total	\$185.58	\$ 34.70	\$143.83	\$ 2.35	\$ 4.70	
11	Labor	\$ 9.82	\$ 8.67		\$ 1.15		
	Material	27.23	26.03		1.20		
	Total	\$ 37.05	\$ 34.70		\$ 2.35		
12	Labor	\$ 9.80	\$ 8.66		\$ 1.14		
	Material	27.23	26.03		1.20		
	Total	\$ 37.03	\$ 34.69		\$ 2.34		
Grand Total		\$667.79	\$208.16	\$431.47	\$14.08	\$14.08	

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

No. 217 (Cont'd)

The above total amount, \$667.79, is transferred to Operating Expenses for the reason that the expense incurred appears to be maintenance of the several houses, rather than additions thereto.

Following is a copy of Examiner's letter concerning the propriety of capitalizing the costs of this work order, which inquiry remains unanswered:

"Colorado Springs, Colorado
 June 7, 1940

"Mr. J. O. Shields, Assistant Treasurer,
 Colorado Interstate Gas Company,
 Colorado Springs, Colorado.

Dear Sir:

"The entire cost of Work Order No. 343, \$667.79, was charged to Fixed Capital Account No. 223 C, Devine Station, houses numbers 1-2-3-4-9-11 and 12, by Voucher H-34, 1939.

"According to the record the work covered by this work order consisted of screening six houses, numbers 2-3-4-9-11 and 12	\$ 208.16
remodeling back porches of houses 1-2 and 9	431.47
painting front porches of houses 2-3-4-9-11 and 12	14.08
painting back porches of houses 1-2 and 9	14.08
	<u>\$ 667.79</u>

"Inasmuch as these houses were erected some years ago, please advise whether this screening is the first screening of these houses, also the character of the remodeling, and the reason for capitalizing the cost of remodeling and painting the porches.

Yours very truly,

E. L. Dunn,
 Examiner of Accounts."

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. R-218

22-M Measuring System Structures	\$1,379.27	
25-M Measuring System Equipment		\$1,379.27

To transfer from Measuring Station Equipment account to Measuring Station Structures account the various pit and other costs as could be readily determined which had been erroneously recorded as equipment costs.

Station	Total	Material	Labor	Fence	Trucking, etc.
Airport Regulator Station,					
Colorado Springs	\$ 209.01	\$138.90	\$ 70.11		
El Paso	214.03	214.03	Undetermined		
Mountain Valley School	73.39	73.39	Undetermined		
Lawley	211.20	151.78	59.42		
Littleton-Arapahoe	32.50			\$32.50	
Pueblo County Poor Farm	47.28	47.28	Undetermined		
Rocky Ford	8.00			8.00	
Sullivan	583.86	204.44	204.00 (1)		\$ 65.10 (1)
					110.32 (1)
	<u>\$1,379.27</u>	<u>\$829.82</u>	<u>\$333.53</u>	<u>\$40.50</u>	<u>\$175.42</u>

Miscellaneous expenses

Note (1): Apportioned on dollar basis between Equipment and Structures.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
	No. 220		
1146	Other Deferred Debits	\$26,750.00	
203	Other Expenses during Construction		\$26,750.00

The above amount, paid by New York Office Voucher 361 (1928) to Henry L. Doherty & Company, and recorded on the records at the Colorado Springs, Colorado office by Voucher H-459 (August 1928), represents a payment to Cities Service Company in June 1928 and is indicated as being the repayment of an advance of \$25,000.00 "made by Cities Service Company in connection with the Denver franchise," together with interest thereon at the rate of 6% per annum for 14 months amounting to \$1,750.00, or a total of \$26,750.00.

The vouchers by which the above item was paid and recorded on the Respondent's Colorado Springs, Colorado records were considered to be inadequately supported in that there were no details regarding the date, purpose or nature of the \$25,000.00 advance. In response to Examiner's inquiry of March 30, 1940, Mr. J. O. Shields, Assistant Treasurer, Colorado Interstate Gas Company, replied by letter dated April 18, 1940, as follows:

"With reference to your letter of March 30, 1940, to Mr. P. C. Spencer, I wish to advise that the amount of \$26,750.00 paid to Cities Service Company was on account of engineers and other employees in connection with the initial acquisition of the rate ordinance and other matters investigating the feasibility of the gas supply for Denver. We have no knowledge of the exact date on which the various services were performed.

"The amount was an amount agreed to in conference and was approved by Mr. Payne on the face of the bill as a result of that conference. The reason for deferring payment was that the question did not come up until approximately the time of settlement when the Cities Service Company made the request. The interest was included because repayment had been deferred and was decided upon as part of the settlement of the charge."

The explanation of the disbursement given by Mr. Shields as above, and the statement rendered by Cities Service Company, both state that the charge was in connection with the Denver franchise.

The total amount of this disbursement is therefore transferred to Other Deferred Debits by the Examiner, for the reason that the information contained in the letter reproduced above is indefinite as to the type of services rendered and does not show conclusively that the costs of such services as were rendered are legitimate plant costs of the Respondent, particularly since the Denver franchise is held by the Public Service Company of Colorado and not by the Respondent, for which reason it is believed inequitable for the Respondent to absorb in its plant accounts expenses incurred in connection with such franchise, either by or for the account of the holder thereof, and for the additional reason that the amount of the disbursement appears to be the result of negotiations between the parties involved, rather than the actual cost of services rendered.

For the above-stated reasons this amount has been removed from the plant accounts and charged to Other Deferred Debits for the Commission's determination as to the disposition thereof.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
No. 222			
535	Other Interest Charges (1928)	\$183,315.48	
534-2	Other Interest Revenues (1928)		\$ 2,448.19
266	Interest during Construction (1928)		180,866.99

The Respondent capitalized as Interest during Construction an amount computed as follows:

October 1928 - Interest charged by Standard Oil Company (New Jersey) to September 30, 1928 on advances made for construction purposes for both Colorado Interstate Gas Company and Canadian River Gas Company (Per details, Schedule No. 10, Part 1)			
		\$147,400.55	
Less, Amount charged to Canadian River Gas Company		\$ 265,754.56	
Amount absorbed by Colorado Interstate Gas Company			\$181,645.99
December 1928 - Interest charged by Interstate Natural Gas Company on expenditures for the account of Ford, Bacon & Davis, Inc. from June 6 to September 30, 1927, and on advances for Benson Special Account from September 30 to December 16, 1927, and Womble Special Account from November 30 to December 16, 1927			
		\$2,225.99	
Less, Amount charged to Canadian River Gas Company (one-fourth)		556.50	
Amount absorbed by Colorado Interstate Gas Company			1,669.49
Total charges			\$183,315.48
Less, Amounts credited to Interest during Construction:			
October 1928 - Charge to Canadian River Gas Company for interest on advances during September 1928			
		\$ 271.94	
October 1929 - Correction of error in transferring interest from Ford, Bacon & Davis, Inc. books per Voucher H-332, 1928. It was then credited to Interest Revenue account, whereas it should have been credited to Interest during Construction. Analysis thereof is shown in Schedule No. 10, Part 1			
		2,176.55	2,448.19
Net amount of Interest during Construction capitalized (Note 1)			\$180,866.99

The interest capitalized therefore represents primarily interest on funds advanced by Standard Oil Company (New Jersey) computed from the date of the advance to September 30, 1928, irrespective of the amounts, and periods such funds were actually used for construction purposes.

It is found that while interest on advances, etc., was capitalized to September 30, 1928, the pipe line was placed in commercial operation prior to that date, the first deliveries of natural gas having been made as follows:

- To Colorado Fuel and Iron Company on June 19, 1928
- To Pueblo Gas and Fuel Company on June 21, 1928
- To Public Service Company of Colorado at Denver, Colorado, on June 23, 1928

The entire amount of \$180,866.99 of Interest during Construction as charged which is related to funds borrowed rather than computed on direct construction expenditures during the construction period; is therefore removed from the plant account and the amount substituted in lieu thereof, as the result of Examiner's recalculation, is presented in the following Entry No. 223.

Note: (1) The Company has not capitalized Interest during Construction

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number		Debit	Credit
	No. 223		
266	Interest during Construction	\$191,901.80	
536	Interest Charged to Construction		\$191,901.80

To record Examiner's computation of Interest during Construction based on actual construction expenditures to July 1, 1928, which date is considered as being the reasonable date for commencement of commercial operations in consideration of Respondent's having made the first substantial deliveries of natural gas during June 1928, as set out in the preceding entry.

Details of the Examiner's computation are presented in Schedule No. 10-C.

COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRY

Account Number		Debit	Credit
	No. 224		
107	Gas Plant Adjustments	\$2,352,941.17	
	Franchises and Contracts		\$2,352,941.17

The above amount represents the recorded value of capital stocks issued as follows:

To Southwestern Development Company:			
10,000 shares of 6% preferred stock of \$100.00 par value each			\$1,000,000.00
531,250 shares of no-par value common stock			<u>1,000,000.00</u>
Total stock issued to Southwestern Development Company			\$2,000,000.00
To Cities Service Company:			
187,500 shares of no-par value common stock		352,941.17	
Total stocks charged to Franchises and Contracts		<u>\$2,352,941.17</u>	

Copy of the resolutions adopted by the Board of Directors on June 5, 1928, authorizing the issuance of these stocks, is attached.

For the following reasons the entire amount of \$2,352,941.17 is considered a write-up of the plant account to offset the par value of the preferred stock and the recorded value of the common stock issued to associated companies:

(1) Apparently no tangible consideration was received by the Respondent for the above stocks issued, and the intangible value, if any, of the consideration received by the Respondent appears questionable. According to the minutes of the Board of Directors at a meeting held June 5, 1928, Canadian River Gas Company refused to enter into a contract under the terms of which the gas supply of the Respondent was to be purchased from Canadian River Gas Company, unless the Respondent should issue to it or its order as part consideration therefor the stocks shown above as being issued to Southwestern Development Company. The latter company at that time owned, and has continuously owned since that time, 100% of the capital stock of Canadian River Gas Company. Also on June 5, 1928, the Board of Directors of Colorado Interstate Gas Company, in order to make contracts for the sale of gas to Pueblo Gas and Fuel Company and Public Service Company of Colorado, both of which companies were owned or controlled by Cities Service Company, authorized the issuance of 187,500 shares of the Respondent's common stock to Cities Service Company. It therefore appears that the Respondent gave common and preferred stocks at a recorded value of \$2,000,000.00 for the right to buy gas, and gave common stock at a recorded value of \$352,941.17 for the privilege of selling gas to certain customers. The value, if any, to be placed upon these privileges is referred to the Commission for determination.

(2) The minutes of the Board of Directors do not contain any authorization for the value at which the 718,750 shares of no-par common stock were to be recorded. The price of \$1.88235294 per share is the same as that which was paid by Standard Oil Company (New Jersey) for 531,250 shares of no-par common stock purchased by it.

Excerpts from Minutes of the Board of Directors' Meeting

COPY

Held June 5, 1928

WHEREAS, The officers of this corporation have negotiated the purchase by this corporation from the Canadian River Gas Company of certain gas to supply customers of this corporation in and near Denver, Pueblo and Colorado Springs, Colorado, and elsewhere along and near the pipe line which this corporation contemplates constructing from near Clayton, New Mexico, to Denver, Colorado, with branches to Pueblo, Colorado Springs, Concrete and Portland, Colorado, and upon the election of this corporation the gas required by it to supply any other customers which it may have, in the amounts, for the price or prices, and under the terms and conditions specified in a certain proposed agreement bearing date the third day of January 1928, submitted to and read at this meeting; and

WHEREAS, Said Canadian River Gas Company has refused to enter into said contract unless this corporation shall issue to it or to its order as part consideration therefor Ten Thousand (10,000) shares of its One Hundred Dollar (\$100.00) par value, Six Per Cent. (6%) Preferred Capital Stock and Five Hundred Thirty-one Thousand Two Hundred Fifty (531,250) shares of its Common Capital Stock, and

WHEREAS, It is deemed to be to the best interests of this Corporation to enter into and perform said contract and pay the consideration therefor;

NOW, THEREFORE, BE IT RESOLVED, That the President or any Vice-President of this corporation be and he is hereby authorized to execute with the Canadian River Gas Company the contract in the form presented to and read at this meeting, and the Secretary or any Assistant Secretary of this corporation be and he is hereby authorized and directed to affix therunto and attest the corporate seal of this corporation; and

FURTHER RESOLVED, That the officers be and they are hereby authorized to issue to the Canadian River Gas Company or to its order Ten Thousand (10,000) shares of the One Hundred Dollar (\$100.00) par value, Six Per Cent. (6%) Preferred Capital Stock of this corporation and Five Hundred Thirty-one Thousand Two Hundred Fifty (531,250) shares of the Common Capital Stock of this corporation as part of the consideration for the Canadian River Gas Company entering into said contract with this corporation; and

FURTHER RESOLVED, That the officers of this corporation be and they are hereby directed to do all things necessary or proper to perform said contract in accordance with the terms thereof.

On motion, duly made and seconded, the following Resolution was unanimously adopted:

WHEREAS, This corporation has requested the Public Service Company of Colorado and the Pueblo Gas & Fuel Company, owned or controlled by the Cities Service Company, to enter into contracts with it for the sale of gas to said companies as provided in said contracts; and

WHEREAS, The Cities Service Company has declined and refused to permit or direct its said subsidiaries to enter into such contracts unless there is issued to it One Hundred Eighty-seven Thousand Five Hundred (187,500) shares of the Common Capital Stock of this corporation; and

WHEREAS, It is to the best interests of this corporation to negotiate the sale of gas to said subsidiaries of the Cities Service Company, under the terms set forth in said contracts, and to issue to the Cities Service Company One Hundred Eighty-seven Thousand Five Hundred (187,500) shares of the Common Capital Stock of this corporation;

NOW, THEREFORE, BE IT RESOLVED, That One Hundred Eighty-seven Thousand Five Hundred (187,500) shares of the Common Capital Stock of this corporation be issued to the Cities Service Company in consideration for its directing its said subsidiary companies to enter into, with this

Docket G-124

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COLORADO INTERSTATE GAS COMPANY
EXAMINER'S ADJUSTING ENTRIES

Account Number	Debit	Credit
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No. 225

146 Other Deferred Debits	\$236,666.67	
Franchises and Contracts		\$236,666.67

The above amount represents the net recorded cost of the contract with the City of Colorado Springs, Colorado, and consists of:

(1) Payment of \$275,000.00 in July 1931 to Guaranty Trust Company, New York City, to be held in escrow for Mr. Arthur K. Lee pending completion of certain formalities, as the consideration for the assignment per agreement of June 5, 1931 between R. J. Dunham and W. D. Pratt (assignors) and Ford, Bacon & Davis, Inc. (assignees) of:

(A) Franchises from the towns of Sugar City, Ordway, Fountain, Crowley, Olney Springs, Fowler, Manzanola, and South Canon, all in Colorado;

(B) Contract dated July 30, 1930, between the City of Colorado Springs, Colorado, and Arthur K. Lee;

(C) Deposits made in connection with franchises and contracts:

\$25,000.00 with Colorado Springs
 15,000.00 with Ordway
 5,000.00 with Sugar City
 5,000.00 with Fountain

(D) All the capital stock of the Canon City Gas Company.

(2) Credit of \$25,000.00 arising from the recovery in full by Respondent, of the deposit with the City of Colorado Springs.

(3) Credit of \$13,333.33 arising from the recovery of two-thirds of the deposits with Ordway and Sugar City. This amount appears to have been collected by Ford, Bacon & Davis, Inc. and passed along by them to the Respondent in March 1932. According to a letter dated February 27, 1940 from Mr. J. O. Shields, Assistant Treasurer of Colorado Interstate Gas Company, the above represented two-thirds of the cost of the franchises, the other one-third being retained by the towns, and the \$5,000.00 deposit with Fountain was forfeited because no terms could be agreed upon. Mr. Shields also advised that no record was found of the capital stock of the Canon City Gas Company but he believes that it had no value at any time.

No. 225 (Cont'd)

In response to inquiries made by the Examiner, Mr. John L. Rice, Town Clerk, Ordway, Colorado, advised that a natural gas franchise dated October 6, 1930 was granted to Arthur K. Lee interests; that the \$15,000.00 deposit made was to insure compliance with the ordinance; that the Lee interest therein was apparently transferred to Arkansas Valley Natural Gas Company, and on October 5, 1931 a new ordinance was prepared; that \$10,000.00 of the deposit was refunded to Arkansas Valley Natural Gas Company, receipt thereof being acknowledged on December 28, 1931; and that \$5,000.00 of the deposit appears to have been retained as a forfeiture because of change or failure on the part of the depositors to comply with the original agreement.

Mr. A. M. Sayers, Town Clerk, Fountain, Colorado, advised that a natural gas franchise dated October 24, 1930 was granted to Arthur K. Lee and subsequently assigned to Arkansas Valley Natural Gas Company (date unknown); and that the \$5,000.00 deposit was required to guarantee fulfillment of the terms of the franchise and was forfeited because the assignee would not carry out the terms of the franchise but wanted higher rates for gas.

Examiner's inquiry addressed to the Town Clerk of Sugar City, Colorado, was unanswered.

None of the eight communities, the franchises of which were assigned under the terms of the agreement of June 5, 1931, is served directly by the Respondent. The towns of Sugar City, Ordway, Fowler and Manzanola are served by Arkansas Valley Natural Gas Company, which company is understood to be controlled by Ford, Bacon & Davis, Inc.

The entire amount of the net recorded cost of the City of Colorado Springs, Colorado, contract, \$236,666.67, has been removed from the plant account and charged to Other Deferred Debits for the Commission's determination as to the disposition thereof, for the following reasons:

(1) The recorded cost includes \$11,666.67 representing unrecovered deposits, which should have been disposed of at the time the deposits were determined to be uncollectible.

(2) The payment of \$275,000.00 to Mr. Lee covered franchises in eight communities as well as the contract with the City of Colorado Springs. It therefore appears that some allocation of the payment should have been made as between franchise and contract costs for the nine towns and cities involved.

(3) Gas service to four of the communities from which franchises were received was instituted by Arkansas Valley Natural Gas Company shortly after the date the franchises were acquired by the Respondent. It therefore appears that the Respondent gave these four franchises to Arkansas Valley Natural Gas Company free of charge.

(4) The contract to sell gas to the City of Colorado Springs did not cost Mr. Lee anything. It is clearly understood that the city was negotiating for favorable rates and required no payment, except the deposit of \$25,000.00 to guarantee performance of the contract. By reimbursing the Lee interests for whatever expenditures they may have made in connection with the acquisition of the franchises and contracts and for preliminary work in connection with their proposed pipe line, plus a possible promoter's profit, Colorado Interstate Gas Company was able to acquire the Lee contract and thereby remove the possibility of a competitive pipe line in the vicinity of its own pipe line.

COLORADO INTERSTATE GAS COMPANY
 SUMMARY OF INVESTMENT IN GAS PLANT
 PER BOOKS AND AS ADJUSTED
 AS OF DECEMBER 31, 1979

Schedule No. 1
 Sheet 1 of 2

Account No. (1)	Description (2)	Quantity (3)	Per Books Amount (4)	Examiner's Adjustments Debit (5)	Credit (6)	Adjusted Total (7)	Suspended for Commission's Consideration (8)
226-D	Transmission System Main Line and Laterals						
	Pipe	2,266,033.2"	\$ 5,432,988.12	\$ 12,985.45	\$ 12,985.45	\$ 5,432,988.12	\$ 512.60
	Other Materials		1,004,337.64	1,340.17	1,340.17	1,004,337.64	
	Construction Costs		2,690,855.60	164,543.08	672,096.81	2,173,169.87	391,039.35
218-D	Total Pipe, Fittings and Construction		\$ 9,087,965.36	\$ 509,288.70	\$ 686,122.13	\$ 8,571,795.63	\$ 902,598.75
220-D	Land		2,420.30		2,420.30		
	Rights of Way	131,206.1 rods	110,100.05	167,741.97	4,974.82	273,167.20	
	Total Main Line and Laterals		\$ 9,200,169.71	\$ 677,030.67	\$ 693,817.55	\$ 9,105,282.83	\$ 990,256.75
218-C	Compressing System						
	Land		4,104.51		200.00		3,904.51
219-C	Leaseholds	17 1/4 acres	623.85		100.00		523.85
221-C	Structures	521 acres	185,654.96	10,963.23	1,484.52	195,153.67	7,370.20
224-C	Equipment		1,232,104.97		33,794.53	1,198,310.44	50,866.16
223-C	Other Structures		168,815.99	1,048.14	1,711.53	166,152.60	4,899.14
227-C	Other Equipment		5,320.18			5,320.18	
	Total Compressing System		\$ 1,516,822.86	\$ 12,031.37	\$ 37,207.59	\$ 1,521,267.25	\$ 67,065.80
218-M	Measuring System						
	Land						
222-M	Structures						
225-M	Equipment						
227-M	Other Equipment						
	Total Measuring System						
218-D	Land	165.18 acres	926.90			926.90	
219-D	Leaseholds	10.00 acres	115.50			115.50	
223-D	Structures		59,575.44		534.98	59,603.31	877.82
227-D	Equipment		18,792.11	564.85		18,792.11	186.50
	Total Other Structures and Equipment						
255-E	Telephone System						
	Equipment		79,407.95	564.85	534.98	79,437.82	1,064.32
	Total Telephone System		\$ 115,873.63	\$ 9,148.11	\$ 827.04	\$ 155,667.60	\$ 1.95
	Total Transmission System		\$ 11,043,675.15	\$ 639,043.30	\$ 732,282.55	\$ 11,010,435.90	\$ 454,658.50
218-M	Distribution System						
	Measuring System						
218-M	Land						
222-M	Structures	12,200.7 acres	12,210.45	100.00		12,210.45	
225-M	Equipment		51,534.68	2,876.15	1,327.07	53,085.76	2,082.86
227-M	Other Equipment		90,299.64	4,140.66	6,156.06	86,599.24	3,046.17
	Total Distribution Measuring System		\$ 3,037.29			\$ 3,037.29	
	Total Distribution System		\$ 157,076.06	\$ 7,381.81	\$ 7,505.13	\$ 156,872.74	\$ 5,069.03

COLORADO INTERSTATE GAS COMPANY
SUMMARY OF INVESTMENT IN GAS PLANT
PER BOOKS AND AS ADJUSTED
AS OF DECEMBER 31, 1939

Schedule No. 1
Sheet 2 of 2

Account No.	Description	Per Book	Examiner's Adjustments	Adjusted Total	Suspended for Commission's Consideration
(1)	(2)	(3)	(4)	(5)	(6)
	Undistributed Fixed Capital				
203	Entrance Rights of Way	\$ 350,000.00			
203	Other Expenses during Construction	63,675.61			
202	Less Expenditures during Construction	50,899.41			
206	Interest during Construction	180,866.99			
	Total Undistributed Fixed Capital	\$ 642,422.01			
	General Property				
249-E	Office Furniture and Equipment	\$ 29,108.82			
253-E	Garage Equipment	67,524.79			
256-E	Tools and Equipment	33,930.69			
	Total General Property	\$ 130,564.30			
	Franchises and Contracts				
	Book value of 15072 issued to Southwestern Development Company and Citizens Service Company	\$ 2,352,941.17			
	Net cost of City of Colorado Springs, Colorado contract	236,666.67			
	Total Franchises and Contracts	\$ 2,589,607.84			
	Total Gas Plant Accounts	\$14,566,365.36	\$ 896,326.91	\$ 15,462,692.27	\$11,536,716.35
	Construction Work in Progress	\$ 29,677.85			
	Gas Plant Held for Future Use	\$ 19,944.71			
	Gas Plant Adjustments	2,352,941.17			
	Total	\$17,596,043.21	\$3,271,262.79	\$14,324,780.42	\$12,989,360.00

COLORADO INTERSTATE GAS COMPANY
COMPARISON OF ORIGINAL COST OF OIL & GAS PIPE LINE PROPERTIES
AS OF DECEMBER 31, 1939, PER COMPANY BOOKS
WITH EXHIBIT NO. 67 INTRODUCED BY MR. WILLIAM A. LUSH

Statement No. 1

Exhibit No. 19

Account No.	Name	Original Cost Per Books Dec. 31, 1939	Allocation of Undistributed Construction Costs Per Exhibit No. 67 (Note 1)	Original Cost Per Books Adjusted to Include Allocation of Undistributed Construction Costs Dec. 31, 1939	Original Cost Per Exhibit No. 2 Dec. 31, 1939	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Transmission System						
Main Line and Laterals						
218 D	Land	0	2,180.30			
220 D	Rights of Way		110,100.05			
226 D	Transmission Line Equipment		9,087,910.36			
	Total Main Line and Laterals		9,200,280.71	\$ 9,200,280.71	\$ 9,200,280.71	\$ 0.00
Compressing System						
218 C	Land	0	4,104.51			
219 C	Leaseholds		685.48			
221 C	Structures		185,651.96			
224 C	Equipment		1,832,104.97			
225 C	Other Structures		188,815.99			
227 C	Other Equipment		5,320.18			
	Total Compressing System		1,815,685.86	\$ 1,815,685.86	\$ 1,815,685.86	\$ 0.00
Other Structures and Equipment						
218 D	Land	0	986.00			
219 D	Leaseholds		115.50			
223 D	Structures		59,573.14			
227 D	Equipment		18,732.11			
	Total Other Structures and Equipment		79,406.75	\$ 79,406.75	\$ 79,406.75	\$ 0.00
255 T	Telephone System		125,875.65	\$ 125,875.65	\$ 125,875.65	\$ 0.00
	Total Transmission System		11,225,875.65	\$ 11,225,875.65	\$ 11,225,875.65	\$ 0.00
Distribution System						
Measuring System						
218 M	Land	0	12,210.18			
222 M	Structures		51,534.68			
225 M	Equipment		90,893.64			
227 M	Other Equipment		3,057.89			
	Total Distribution-Measuring System		157,696.39	\$ 157,696.39	\$ 157,696.39	\$ 0.00
General Property						
210 E	Office Furniture and Equipment		89,108.88			
253 E	Garage Equipment		67,584.79			
256 E	Tools and Equipment		32,730.69			
	Total General Property		189,424.36	\$ 189,424.36	\$ 189,424.36	\$ 0.00
Undistributed Fixed Capital						
203	Entrance Rights of Way (\$350,000.00)					
203	Other Expenses during Construction		63,675.61	\$ (63,675.61)		
202	Law Expenditures during Construction		50,899.41	\$ (50,899.41)		
206	Interest during Construction		180,866.99	\$ (180,866.99)		
	Total Undistributed Fixed Capital		\$ 295,142.01	\$ (295,142.01)		

Comparable Totals - Original Cost of Above Items

Per Books and Item 7, Statement 2, Exhibit 67

\$11,626,757.52

\$11,626,757.52

\$11,626,757.52

\$11,626,757.52

Note 1: Based on Plant Accounts (as adjusted by Mr. Lush) as of December 31, 1939.

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Statement No. 1-4

Exhibit No. 195

COLORADO INTERSTATE GAS COMPANY

ORIGINAL COST OF DENVER PIPE LINE PROPERTY AS OF DECEMBER 31, 1928

PER BOOKS AND AS RECLASSIFIED BY MR. LUKK

AS THE BASIS FOR ALLOCATION OF UNDISTRIBUTED CONSTRUCTION COSTS

	<u>Original Cost</u>	<u>As Reclassified</u>
	<u>Per Books</u>	<u>by Mr. Lukk</u>
	<u>December 31, 1928</u>	
Compressing System	970.93	22,361.00
Transmission System	8,165,107.07	8,153,061.00
Measuring System	72,187.16	88,846.00
Other Structures and Equipment	36,288.82	10,850.00
Telephone System	110,317.35	110,318.00
Other General Property	61,986.81	99,308.00
Total of Above	<u>\$8,180,188.11</u>	<u>\$8,180,188.00</u>
Undistributed Fixed Capital	<u>\$ 897,618.56</u>	<u>\$ 897,619.00</u>
Total	<u>\$8,777,806.70</u>	<u>\$8,777,807.00</u>

Ratio of Undistributed Construction Cost to Direct Costs

$$\frac{\$8,180,188.11}{\$897,618.56 \text{ (adjusted)}} = 3.1890867\%$$

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COLORADO INTERSTATE GAS COMPANY
COMPARATIVE STATEMENT SHOWING COST OF CRYSTAL FARM, THE COST OF RIGHTS OF WAY PREVIOUS

Company's Designation (1)	Description (2)	Approximate Acreage (3)	Purchased From (4)	Date (5)	Voucher Reference (6)	Amount (7)
Anderson Farm	Located in the south half of Section 22, Twp. 26 south, Range 60 west Pueblo County, Colorado	380.00	Public Trustee of Pueblo County, Colorado Legal & Recording Expenses	Jan. 7, 1932 Mar. 26, 1932	A-272 C-296	\$ 112.48 65.00 <u>177.48</u>
Castle Farm	Located in the northwest quarter of Section 3, and the northeast quarter of Section 4, Twp. 21 south, Range 63 west, Pueblo County, Colorado	176.71	Public Trustee of Pueblo County, Colorado Federal Land Bank of Wichita - for "Loan on Castle Property."	July 31, 1930 Mar. 13, 1931	10-379 C-219	\$ 7,319.58 3,887.94 <u>11,207.52</u>
The cost of the Castle Farm includes 26 shares of the capital stock of the Bessemer Irrigating Ditch Company, which according to the latter, has a market value of at least \$75.00 per share, or the 26 shares owned have a minimum market value of \$1,950.00.						
Gunner Farm	Consists of the west half of Section 29, lots 1 and 2, the east half of the north- west quarter, and the northeast quarter of Section 30, Twp. 28 south, Range 59 west, Las Animas County, Colorado	636.52	Public Trustee of Las Animas County, Colorado	Nov. 26, 1930	L-207	\$ 1,219.75 <u> </u>
Green Farm	Located in the east half of Section 29, Twp. 33 south, Range 57 west, Las Animas County, Colorado	320.00	Public Trustee of Las Animas County, Colorado	May 8, 1930	E-216	\$ 1,073.00 <u> </u>
James Farm	Consists of lots 1 and 2, the east half of the northwest quarter, and the northwest quarter of the northeast quarter of Section 18, Twp. 28 south, Range 59 west, Las Animas County, Colorado	195.69	Public Trustee of Las Animas County, Colorado	June 5, 1931	F-259	\$ 656.76 <u> </u>
Total Cost of Farms per Books Carried Therein as "Other Physical Property"						\$14,334.51

Original Cost of Rights of Way across the Identical Farms, which Cost is Included in Plant Account No. 220 D - Transmission &

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Statement No. 2

Exhibit No. 195

COLORADO INTERSTATE GAS COMPANY

ANNUAL STATEMENT SHOWING COST OF CERTAIN FARMS, THE COST OF RIGHTS OF WAY PREVIOUSLY ACQUIRED THEREON

Cost

Original Cost of Right of Way Retained in Plant Account as of Dec. 31, 1939

Approximate Acreage (3)	Purchased From (4)	Date (5)	Voucher Reference (6)	Amount (7)	Purchased From (8)	Date (9)	Voucher Reference (10)	Cost R-O-Way (11)	Cost (12)
380.00	Public Trustee of Pueblo County, Colorado	Jan. 7, 1932	A-272	\$ 112.48					
	Legal & Recording Expenses	Mar. 26, 1932	C-296	65.00					
				<u>177.48</u>	H. L. Anderson	Nov. 15, 1927	F.B. & D. Inc. Memo L-12	177.2	<u>\$ 82.00</u>
	Public Trustee of Pueblo County, Colorado	July 31, 1930	C-379	\$ 7,319.58	L. A. Castle and R. G. Castle	Nov. 15, 1927	do.	253.5	<u>\$127.00</u>
176.71	Federal Land Bank of Wichita - for "Loan on Castle Property."	Mar. 13, 1931	C-219	\$ 3,887.94	R. G. Castle and J. K. Castle	Mar. 26, 1928	F.B. & D. Inc. Memo C-26	Not stated	47.00
				<u>11,207.02</u>	(In addition \$1,000.00 was paid for damages and \$207.50 for barn release, making the total paid for right of way and damages \$1,381.50.)				<u>\$174.00</u>

of the capital stock of the Bessemer Irrigating Ditch Company,
as of at least \$75.00 per share, or the 26 shares owned here

636.52	Public Trustee of Las Animas County, Colorado	Nov. 26, 1930	L-207	\$ 1,219.75	Simon J. Ganner	Nov. 15, 1927	F.B. & D. Inc. Memo L-12	Option	\$ 1.00
						Jan. 20, 1928	F.B. & D. Inc. Memo A-17	357.5	<u>179.00</u>
									<u>1180.00</u>
320.00	Public Trustee of Las Animas County, Colorado	May 8, 1930	E-216	\$ 1,073.00	Alton E. Green	Nov. 15, 1927	F.B. & D. Inc. Memo L-12	Option	\$ 1.00
						Jan. 11, 1928	F.B. & D. Inc. Memo A-9	22.0	<u>11.00</u>
									<u>\$ 12.00</u>
195.69	Public Trustee of Las Animas County, Colorado	June 5, 1931	F-259	\$ 656.76	J. Paul Jones	Nov. 15, 1927	F.B. & D. Inc. Memo L-12	177.0	<u>\$ 89.50</u>

as "Other Physical Property"

\$14,334.51

ational Farms, which Cost is Included in Plant Account No. 220 D - Transmission System Rights of Way as of December 31, 1939

\$543.50